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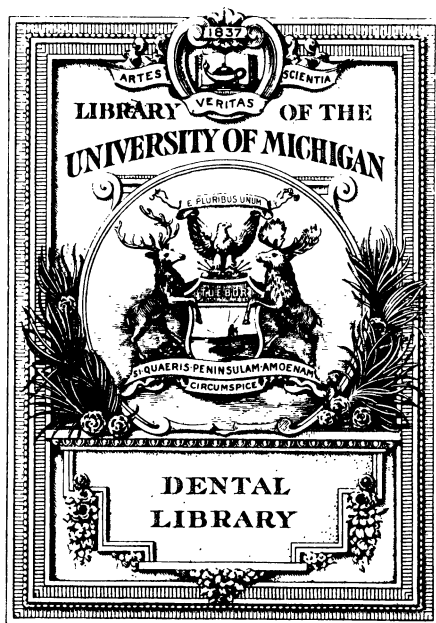
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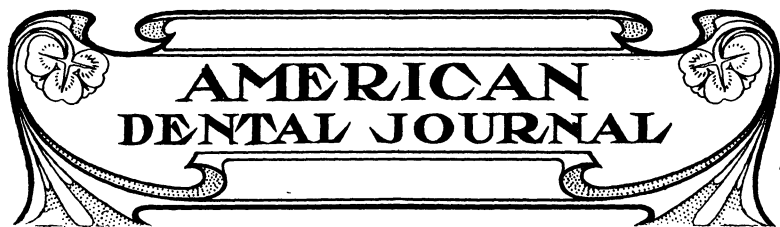
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PROSTHETIC DENTISTRY.*

By B. J. Cigrand, B. S., M. S., D. D. S.

(Professor of Prosthetic Dentistry and Technics of School of Dentistry, University of Illinois.)

CHAPTER IV.

IMPRESSION MATERIALS.

An impression material is a soft mouldable substance of sufficient placticity to copy accurately the forms of hard and semi-hard outlines.

An ideal impression material would have fourteen requisites.

1. Plastic to copy mucous membrane.
2. Void of extreme hardness to prevent pressure.
3. Void of extreme softness to retain itself in the dental tray.
4. Quality of hardening quickly to avoid nausea.
5. Compatible with the living tissues.
6. Non-expansive, to assure accuracy.
7. Non-contractive to assure accuracy.
8. Agreeable in appearance.
9. Agreeable to taste.
10. Not liable to easy breakage.
11. Elastic to copy undercuts and bell-shaped teeth.
12. Non-changeable by fluids of the mouth.
13. Not liable to distortion.
14. Productive of smooth impression.

There is not at present a known impression material which answers to the above requisites, though the four materials now in use fully comply with the table of the ideal material.

The four materials now used are beeswax, gutta percha, modeling compound and plaster of Paris.

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The important points about wax are:

1. Source—Animal kingdom.
2. Adulterations—Tallow and lard.
3. Melts at 160 degrees Fahr.
4. For manipulation, heat to 125 degrees.
5. When heated above 125 degrees becomes flakey.
6. Chiefly used to obtain maxillary antagonism (bite).

Wax, with one-tenth gutta percha, becomes quite elastic, and when added to one-third parafine softens at lower temperature.

Wax as an impression material has the following merits: (1) Free from expansion; (2) free from contraction; (3) unchanged by fluids of the mouth; (4) elastic to copy undercuts; (5) agreeable in taste and appearance.

The objection to wax are: (1) Does not harden quickly; (2) too much pressure must be used; (3) not sufficiently plastic; (4) liable to distortion on removing; (5) will not copy spongy gums.

The important parts about gutta percha are: (1) Source—vegetable kingdom; (2) melts at 212 degrees Fahr.; (3) softens for manipulation at 180 degrees; (4) when heated above 200 degrees destroys its qualities.

White oxide of zinc is used to whiten, and often vermilion to give it an agreeable pink appearance.

Gutta percha has four merits as follows: (1) Non-breakable on removing; (2) unchangeable by fluids of the mouth; (3) contracts—favorable in some cases; (4) elastic.

Its objections are: (1) Hardens too slowly; (2) too much pressure must be used; (3) not sufficiently plastic; (4) changeable on removing; (5) not easily manipulated in mouth.

The important points about modeling composition are: (1) Source—vegetable kingdom; (2) melts at 212 degrees Fahr.; (3) softens at 125 degrees; (4) there are three varieties—soft, medium and hard.

The composition of modeling compound is: Gum demar, stearine, French-chalk, carmine and perfumery.

Seven merits can be given for modeling compound: (1) Agreeable taste and appearance; (2) non-breakable on removing; (3) unchangeable by fluids of the mouth; (4) productive of smooth impression; (5) hardens readily; (6) quite elastic; (7) favorable in partial cases.

The objections to this compound are: (1) Changeable on removing; (2) does not take sharp imprint; (3) not sufficiently plastic.

The important points about plaster of Paris are: (1) Source—mineral kingdom; (2) derives its name from the gypsum mines near Paris, France; (3) when in powder form takes up moisture; (4) when heated to about 350 degrees expels moisture. •

Mineralogical, chemical and commercial names of plaster of Paris are: (1) gypsum; (2) calcium sulphate; (3) plaster of Paris, and its composition is: Lime, 28 parts; sulphuric acid, 40 parts.

To facilitate rapid setting of the plaster, use warm water in mixing or add about ten grains of sodium chloride (common salt) in the water before introducing the powdered plaster.

Plaster of Paris has five merits: (1) plastic; (2) void of extreme hardness; (3) void of extreme softness; (4) quickly setting; (5) non-changeable on removing.

The objections to plaster are: (1) Expands on setting; (2) disagreeable to the taste; (3) easily broken; (4) acted upon by fluids of the mouth; (5) non-elastic.

A maxim on impression materials: The more difficult the case, the more indicative that the impression should be taken with plaster of Paris.

Plaster of Paris is used in combination with other impression materials. It is frequently employed with wax. The wax impression is first taken and a film of plaster poured over wax impression and re-introduced into the mouth for final impression.

(To be continued.)



DENTAL THERAPEUTICS.

By Geo. W. Cook, B. S., D. D. S., Chicago, Ill.

(Professor of Bacteriology and Pathology School of Dentistry, University of Illinois.)

CHAPTER IV.

In discussing the diseases of the pulp as well as any other tissue we cannot speak of the process other than in the language of cell degeneration. Death of a part; or the whole of an organism, never takes place at once, life never immediately comes to a standstill; there is a gradual transition process, and in a degenerative process in disease the first appearance is in the functional derangement of cell nutrition. This is exactly what takes place when the disease of the enamel and dentine of the tooth approaches the protoplasmic structure of the pulp, sufficient to render it possible for certain bacterial substance to be carried into the protoplasmia in a way that it either becomes a stimulent or an irritant.

The fact has already been mentioned that if a stimulent is too great it would eventually bring about an interference with metabolism, and thus produce a diseased condition of one or more cells, as the case may be. The process that is commonly known as atrophy is a degeneration of the protoplasmic structure of the cell in which the ascending phase of cell metabolism is gradually cut off, the cells become smaller, the vital phenomena of the cell becomes less active, and results in the loosening of the cells one from another, by a dissolving out of the cement substance that unite cells together in the structural building up of the tissue substance.

On microscopic examination the cell substance is shown to have lost its normal characteristic appearance. The so-called spongioplasm stains more or less intensely and presents a spongy framework-like appearance, and as the process goes on the whole cell disintegrates into a larger or smaller number of small droplets. After the disintegration of the cells this substance will not take up the staining fluids as it does before the droplets have been fully formed. There most always remains a few insoluble granules lying in the disintegrated mass, and where the surrounding tissue has been materially interfered with the leucocytes will appear in the disintegrated mass

and take upon themselves a phagocytic property, and entirely removes the granular substance that remains.

The condition just described is applicable only to the soft tissue. In the rapid disintegration of the inorganic substance of the dentine the fibrillae or the prolongation of the odontoblast will sometimes become swollen and will become cemented together, and in cross sections it will be difficult to determine the individual cells. They will become mingled one with the other and a complete irregularity of the cell structure be manifested. (This isotropic and anisotropic substance begins to mingle together and across striation of the fibrillas are completely lost.) This process is a condition that is brought about by the stimulating substances formed in the process of the bacterial activity in the dentine, which is a slow and constantly progressive denegeration of the various protoplasmic structure of the prolongation of the odontoblastic substance.

In the pathological changes that takes place known as calcification of the pulp, in many respects resembles the calcification that takes place in other tissues. In this pathological change true calcification of the cells themselves in which the lime-salts become stored within the dying cell, until finally all the living substance has wholly disappeared and its space is taken by a cemented calcareous mass. This condition is produced, as has already been stated, from an external chemical or mechanical cause.

A chemical substance may come into chemical relations with any of the essential constituents of living substance, so that the mechanism of the metabolism of the cells in a way is interfered with. As we have already stated, the causes that lead to pathological changes are as manifold as is the phenomena of life itself, consequently, it will be seen that the chemical or physical disintegration of tooth structure and the near approach of such a process to the high complexed protoplasmic structure of the odontoblastic membrane of the dental pulp, may cause a complete arrest of the life processes of a part or all of the substance that go to make up the pulp in mass.

We have called attention to certain phases that enter into the recognition of certain processes, that make it essential that we study both the physiological and the morbid condition, in order that the proper diagnosis and treatment may be recognized.

In the treatment of decayed teeth the first effort will be in trying, by mechanical means, to remove as far as possible all the degenerated

substance, and that portion of the tooth structure that may contain bacterial life in sufficient quantities if allowed to remain to re-establish the same diseased condition that previously existed. It frequently happens that where disintegration of the tooth substance has gone on in a way that certain chemical toxins or ptomains has been formed and has entered into the protoplasmia in a way that causes a hyper-sensitive condition of the protoplasmia, the treatment is usually such as to render, as far as possible, relief from this painful operation by mechanically removing the decayed portion of the tooth substance. Various means and remedies have from time to time been used with a hope that such relief may be brought about, but owing to the inability to recognize all the causes that lead to this pathological change, the application of all the agents that have been suggested are used almost entirely in an empirical way.

We have just previously said that certain chemical substances influence the cell metabolism and brings about a change in the cellular structure from a normal to an abnormal process, consequently it will be seen that the application of certain agents may temporarily change the protoplasmia from a normal to abnormal conditions. For instance, certain poisons may enter into the protoplasmia of the cell and partially or wholly destroy its functional activity; so it will be seen that such agents as will produce anesthetic properties of the protoplasmia may restrain the activities of the cells for a time sufficient to cause permanent interference with the metabolism of the part, and thus produce a progressive disintegration of the protoplasmia and permanently destroy its functional activity. For instance, the application of carbolic acid, chloroform, ether or alcohol might bring about the very condition that we should avoid, for it is a well-demonstrated fact that these agents chemically combine with the protoplasmia of the cell, thus changing its physiological activities, if kept in constant contact for any length of time the vital manifestations of life comes to a standstill, whether this be in plant or animal cell or on the cellular forms of life. Just what the change is that takes place in living substance due to the action of the anesthetic properties of certain of these agents is at present wholly unknown.

When a hyper-sensitive condition exists in decayed portions of a tooth this manifestation is due to the extreme irritability of the protoplasmia, caused by some agent acting on the prolongation of the odontoblastic membrane. If the pulp itself has not been involved

and no secondary calcific deposits have been formed in that portion of the odontoblastic membrane laying next to the pulp, it is fair to presume that the pulp itself is in a healthy condition, and that the destruction of the prolongations of the odontoblast might have but little, if any, influence on the physiological activity on the pulp itself, but if the destruction of the tooth substance is in close proximity to the pulp, it is pretty safe to state that the pulp in this particular part has taken on pathological changes that will produce a farther extension of the diseased condition into the pulp tissue, and eventually the entire mass may become involved. As soon as the irritation of the pulp is reached to the extent that the physiological activity is changed and serious exudate is formed, bacteria will rapidly make an inroad into the pulp tissue and cause a complete destruction of the cellular element; then the application of a drug would be to arrest the development of bacteria, and at the same time interfere as far as possible with the physiological activity of the part.

This brings up a very important question, and that is, What agent will act upon the bacterial cell without interfering with the physiological function of the animal cell? It must be borne in mind that bacterial protoplasmia belongs in its essential construction to the vegetable kingdom, while the protoplasmia of the pulp of the tooth belongs to the animal kingdom. When it is considered that the functional activities of these two substances are quite reverse in their metabological functional activity, it might be reasoned out that there is a possibility of obtaining an agent that will act upon the bacterial cell without disturbing the cell activity of the animal body. It is a well-known physiological fact that the vital process in plant life is a synthetic process, while in the animal kingdom the vital process is an analytic one.

The substance that is formed by plants is organic, while the animal destroys organic substance. The life of the plant is a process of reduction, the life of the animal process is one of oxidation. So we see in their physiological activity they really differ in many respects, and still the difference in the chemistry that enters into living protoplasmia of both the animal and vegetable kingdom is not very clearly made out. It is also a very evident fact that different species in both kingdoms act and react very differently to their envioning conditions.

Experimental research along the lines of antiseptics and disin-

fectants has lead me to one conclusion, that an agent which will act upon one specie of bacterial life will act very differently upon another. It must also be admitted that the action of an agent on bacterial life depends very largely upon the environment in which the bacterial cell is living. So it must be borne in mind that the application of an agent may act very differently in the cavity of a tooth than the same agent would act in the test tube in the laboratory.

In the decomposition of organic substance by bacteria, it must also be borne in mind that they are constantly manufacturing chemical substance that will enter into the chemical composition of certain agents, and in most instances produce an inert chemical compound; in other words, the chemical substance produced by bacteria may act upon the antiseptic agent in a way that will render it inert, while, on the other hand, a chemical substance might be formed that would become extremely poisonous. In the cavity of a tooth where decay has approached well into the organic substance, the application of such agents as irritants or cell deprents will in most instances have but very little effect upon the bacterial cell, but may cause the death of the animal cells, and in this way render the parts more susceptible to the micro-organism, and in this way increase the disease process rather than retard it.

We have previously called attention to the action of certain of the essential oils. We have also stated that the therapeutic value of the essential oils differ very considerable owing to the difference in their chemical formula. They are extremely irritating when applied to the skin, and necessarily their application to the inuuous membrane would bring about a greater manifestation of pain than when applied to the skin.

According to clinical and scientific research, the essential oils are very much overestimated as agents in dental use: Owing to their volatility they should not under any circumstances be confined on a sensitive tooth pulp. Their ability to prevent the growth of micro-organism is limited to a few conditions. I have elsewhere called attention to one important feature of an agent acting upon bacterial cell life, and that is that it must readily go into solution in order that its action may be manifested on the cellular structure of bacteria. When we take into consideration that the power of the bacterial cell is limited to the absorption of only certain nutritional products, it will readily be seen that the action of a volatile substance like the

essential oils only act as a foreign substance, and in no sense enter into the chemical constituents of the bacterial cell.

(To be continued.)

OPERATIVE DENTISTRY.

By R. B. Tuller, D. D. S.

(Clinical Professor of Operative Dentistry, Chicago College of Dental Surgery.)

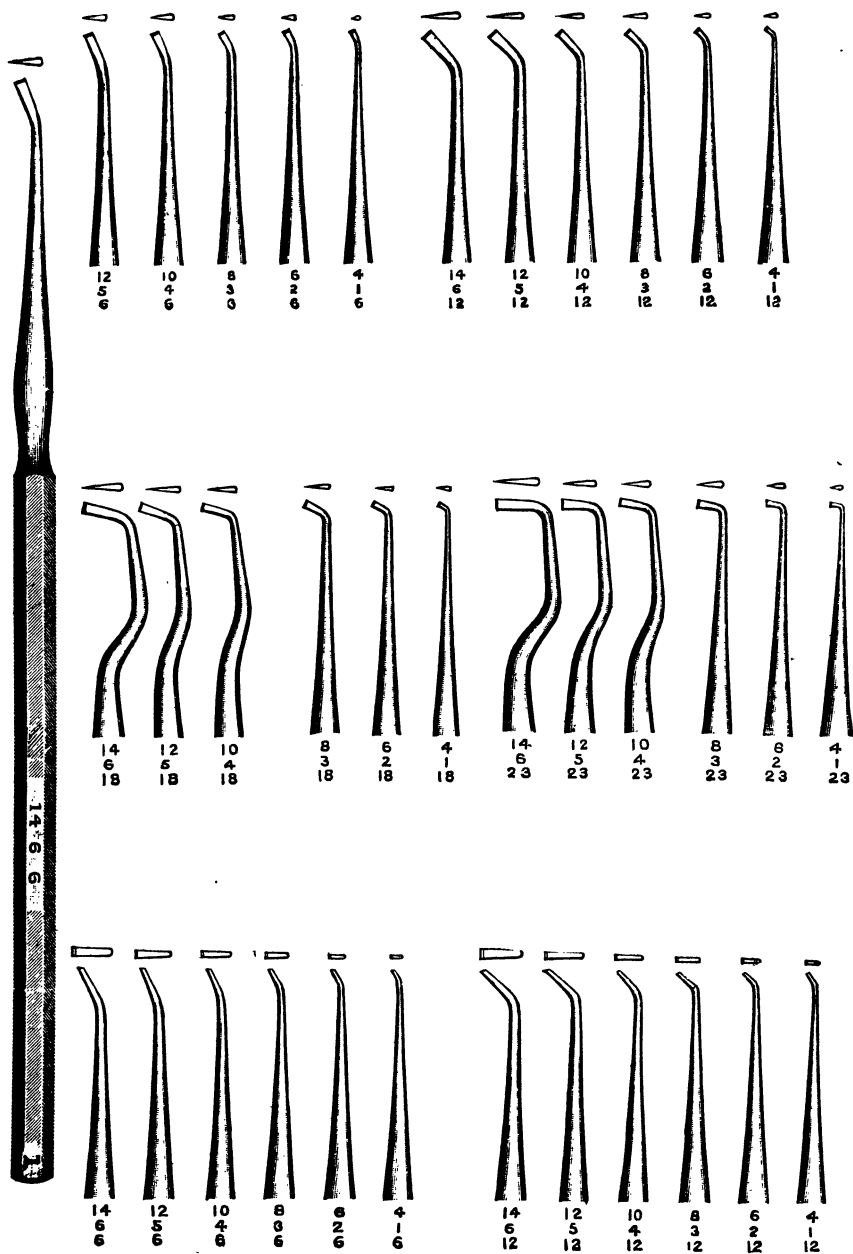
CHAPTER III.

In accordance with foregoing chapters we present our readers this month with the cuts of instruments arranged according to the formulae of Dr. Black. Beginning with the hatchets, it will be noticed that the illustration of the full length instrument has stamped on the shaft the numbers, 14-6-6, but these have nothing whatever to do with the form or style of the handle. As has been previously said, the handle may be made in any style at the option of the maker or those who order them. The first number, 14, indicates in the tenths of a millimeter the width of the blade. The next number, 6, has reference to length of blade, and the last number, 6, has reference to the angle. Six instruments varying in width and length of blade, but all having the same angle, are shown. Few operators would need the entire number and would select but three, perhaps, as, for instance, 12-5-6, 8-3-6, and 6-2-6, or 4-1-6. From the next, one might select three more—say, 12-5-12, 8-3-12, and 6-2-12, or 6-1-12. From the next lot the selection would be, perhaps, then 12-5-23, 8-3-23 and 6-2-23.

Now it is clear that the next lot—Hoes—may be selected in same way, the same formula numbers being used, preceded by the order name, Hoes, instead of Hatchet. This would give nine hatchets and nine hoes.

In enamel chisels in rights and lefts, we would be able to do very well by selecting one pair 15-8-12 L. and 15-8-12 R. The same applies to spoons. One pair would answer very well, the same formula being selected as above—15-8-12 L., and 15-8-12 R.

In the next lot, Gingival Margin Trimmers, we have numbers

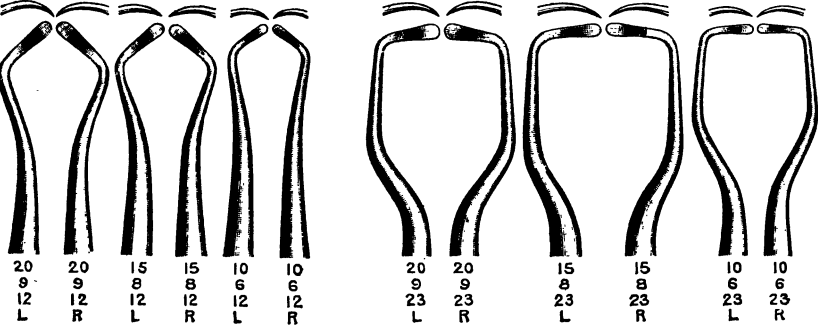
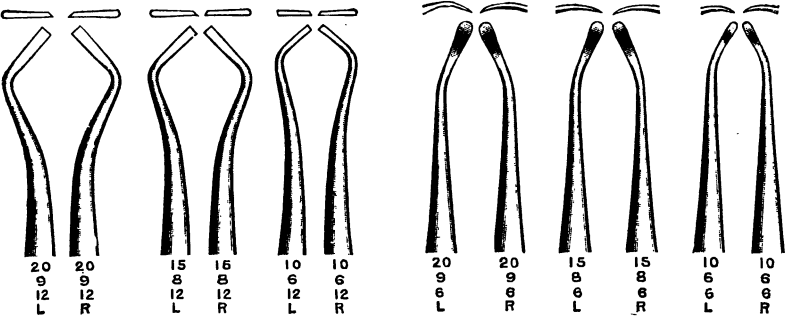
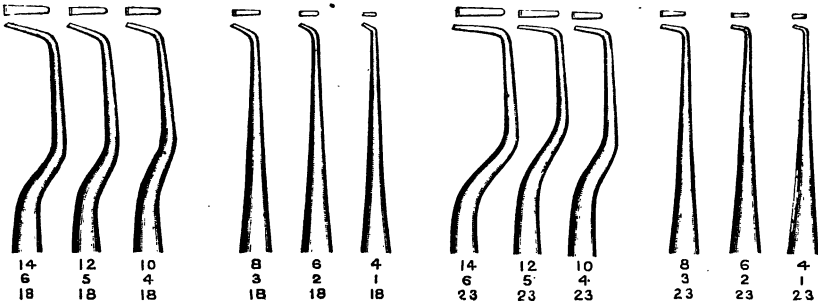


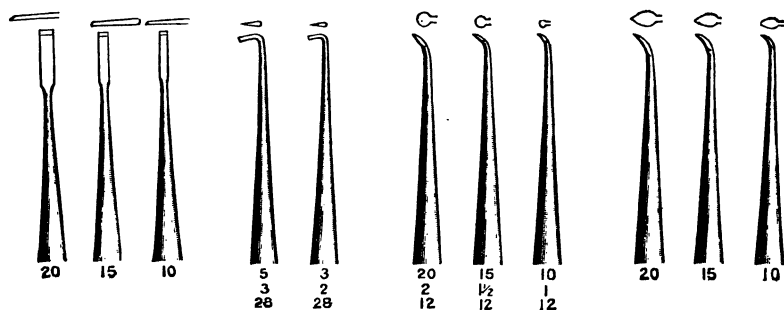
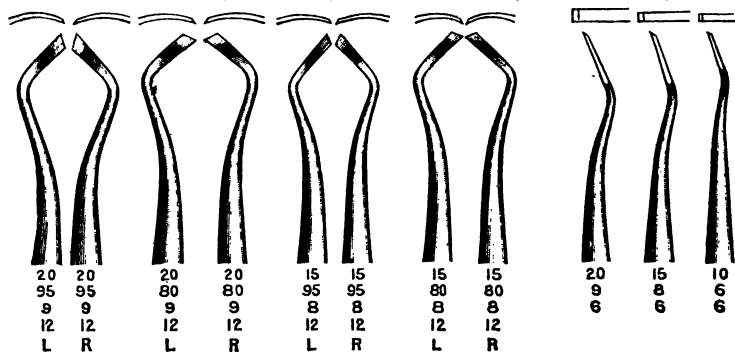
which are the formulae for the angles of the *cutting edges*, which is the main feature in this instrument. One needs a *pair* of these instruments of formula 20-(95)-9-12, Rights and Lefts, and 20-(80)-9-12, or a smaller double pair if he prefers, represented in next four instruments.

In Enamel Chisels, 20-9-6 is, perhaps, a good selection. Among the side instruments 5-3-28, 20-2-12 and No. 15 may be needed.

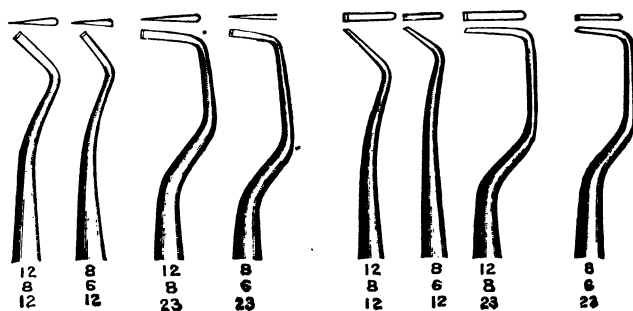
The last block of illustrations show some variations mainly in crooks and angles that will permit of unusually long blades. It is rarely that a shorter blade cannot be used and with more consistency in the matter of physics. They are, however, desired by some operators.

Now, this subject might be carried on for several more chapters to be exhaustive, but we have covered so far even more than a set of ordinaries and certainly enough to convince a thoughtful person that all dental instruments should be reduced to formula numerals or sets of numerals, as we have shown, which will exactly define each different form with its several variations so that the formula numbers presented to maker enables him to understand and make what is wanted without a picture or drawing, and so that we can write and speak of them and be understood by others. Once a person understands that the first number refers to the width of blade and the next the length of the blade and the next the angle at which that blade stands from axis of the handle, and then having in mind the scale or gauge, he can easily fix in his mind the shape of an instrument by the numbers given. It is well to take one familiar instrument as a hatchet that has a blade bent to an angle, say of 45 degrees by the old astronomical of 360 divisions of a circle, and fix in his mind that that is about $12\frac{1}{2}$ of the centigrade scale, and that a number representing an angle less than that would be nearer the straight and a number higher would be nearer the right angle. From 0 to 25 represents a quarter of the centigrade circle. 0 is on a line with the shaft and 25 is at right angles. Between these two run most of the angles given to blades or working points. By noting the numbers that indicate width of blade it will be noted that 0 is at the apex of the V-shaped space and 50 at the other extreme of the offset, and that is easy to remember, and fix in the mind about the width of a blade indicated by a number. Wherever the higher numbers of the circle appear—numbers in the last quarter—it indicates





Side instruments



the angle of the cutting edge of an instrument like those of gingival margin trimmers.

Without formulae the discription of an instrument is something like this: "Bent up a little, then goes straight a little ways, and then bends down a little; then the blade part is about so long and so wide," etc., etc. In writing about instruments it will be necessary to indicate in a clearer manner than that, and so we are glad that Dr. Black has formulated formulae and system and shall be glad to use it when it shall seem advisable. This concludes article on instruments.

(To be continued.)



ORIGINAL CONTRIBUTIONS

HYPER ANAESTHESIA.

BY AUSTIN C. HEWETT, L. D. S., M. D.

In my last article I asked the following question:

"Was he, Dr. ———, as was said of the three others, a victim of heart failure"? Before answering the question, as I suggested I might do, we may seek for a definition of the term "heart failure." Can any find one? This hyphenated solecism of linguistics, this scapegoat of professional and official perplexity, ignorance or deceit, finds no place in standard lexicons, except possibly dictionaries of slang, and in them I have not found it, hence we must describe what is meant rather than give a definition.

Whenever hyper anaesthesia is induced death begins its work. Where? Not primarily in the circulatory system perceivable, not where the hydrostatic force of the heart's mechanism is appreciable, but in that wonderful part of the animal organism where cell life vital and animal functions are dominant; in that work room where invisible tentacles seize nutriment injected, digested, and metabolized for building in growth, resupplying the waste of toil and weariness and where old age marks the beginning of the end of life. Where next? In that wonderland of anastomosis where metabolism begins and capillary function ends and both blend for growth and perpetuation of life. Where arteriola and radicle, mouth to mouth, give and take, and keep in onward flow the colorless and sanguinolent fluid we call blood. What is the heart doing all this time? It is beating steadily on, relieved somewhat of its usual load by the congested capillaries, arterioles, radicles and veinlets all deprived of peripheral nerve stimulant, having lost their contractile force, becoming stagnating sanguinous reservoirs by the million, depleting larger veins, arteries, and pulmonary vessels to low tide mark, the outer guard nerve sentinels in a lethargic sleep at their posts of duty, fail in their appointed task. Where next does death work? In the

pulmonic respiratory region. The patient ceases to breathe, but the heart still beats on, more feebly than before, it is true, and if respiration is not re-established the deserted, burdened muscle will fail. Heart failure, indeed! Did the last brave soldier that went down under the Indian's tomahawk cause the Custer massacre? Did the brave heart beating on under its load of marcotism cause cell and metabolic activity to cease? Did the heart cause the stagnation of colorless blood in capillary, arterole and radicle? Did it put to sleep the ultimate peripheral nerve fibrils? Did the heart cause respiration's suspension? It is utter nonsense, a gauzy screen behind which ignorance, professional and official, strive to hide; a catch phrase, to deceive the public and divert attention from practices, which, were they mine, would be criminal and richly deserve severe punishment; words to be pronounced by a coroner's jury at hint from easy-going surgeons who conduct autopsies, repeated in coroner's records; letters joined and hyphenated to be prattled by interns in excuse for deaths caused by hyper anaesthesias; a phrase spelled out and pronounced by jury, coroner, and intern, who know as little of the fine lines between safe and dangerous anaesthesia as a Hottentot knows of microbes.

Need I further attempt to define heart failure? I prefer to leave it with my readers. I will answer the question.

Dr. ——— did not die of "heart failure." His heart failed the same as the heart of many a brave man failed when a head was torn from his body by an exploded shell or when a bullet crashed through brain or heart. It is equally clear to my mind that the two men with tumors did not die of heart failure, but of primary shock from chloroform. One went to the hospital in good health, save from the tumor. The other equally sound in health, except that he was a subject of alcoholism. As to him, every expert knows that the habitual "drinker" is an especially good subject, all other things being equal, for anaesthetization, except that "shock" (anaesthetic) must be carefully and especially guarded against at commencement. The reason in part is that the nerves of the inebriate from peripheral fibril to ganglion have been for a long time the subjects of over stimulation and have acquired undue sensitiveness, and capillary and heart action are above the normal state of activity. It must be borne in mind that neither patient had to endure the stroke of a knife, for both died before operations commenced.

The doctor's case was clearly one of super anaesthetization. Cell and metabolic resistance was as completely overpowered as in the body of a man days dead. Capillary circulation had ceased, hands, feet, and face and dermal surfaces resembled those asphyxiated by drowning after moisture evaporated. After an hour and forty minutes, during which I was scarcely beyond two arms' reach from him, and when he was wheeled from the operating room, the only appearance of life visible was a shallow, catchy breathing. I should not have been surprised had respiration ceased at any time during the last half hour. What, if any, effort was made to bring back to life the dormant cells, capillaries, small veins and arteries, and dermal tissues I am not informed beyond what I saw of hypodermics and oxygenation during the operation.

There is one aspect of this subject that does or should appeal very strongly to everyone. In case of accident or sudden illness, requiring surgical interference, the patient in the common course of events has not only his life endangered by the accident or disease, but frequently a graver danger awaits him. Let us instance the now very common (?) disease, appendicitis. The patient, from severe suffering and the nature of the malady, needs prompt aid. The attending physician wants counsel, a surgeon certainly. One is called, responds and decrees laparotomy—"nothing but enterotomy will save the patient's life." The surgeon, of course, selects the anaesthetist, or if the patient is taken to a hospital, there an intern is usually chosen. At all events the patient is not consulted as to the choice. Then practically is re-enacted a scene similar to the one I have described. The surgeon, skilled in anatomy and dextrous in the use of bistoury, be it straight, convex, concave, blunt-pointed probe, pointed of Pott, Sir Ashley Cooper's, or bistoury cache, cuts to the line, makes no mistakes. All instrumentation, manipulation, surgically clean, absolutely aseptic, as befits the learned, humane, cool operator that he is.

How about the anaesthetic? Has ether been chosen, with its disgusting odor and dreaded sequelae of vomiting and renal irritation? If chloroform, then was it pure, recently made and had it been absolutely kept from the light, and first opened for this case? Does the surgeon know about these VERY IMPORTANT particulars? Does the intern know? Does he know the effect of light upon chloroform and the untoward manifestations light-

poisoned chloroform will invariably produce? Can he tell by the tremor of the eyelids, and the shadows that sweep over the face what progress the lethal vapor is making? Can he tell by the color of the arterial and venous blood following the surgeon's knife how near the borderland his patient is approaching? Has he an anaesthesemeter by which he measures the quantity of the anaesthetic, or the degree of anaesthesia? In short is he an expert anaesthetist? Has he attended a school of anaesthesia? Where is one located? Readers, you can count such schools (?) on the fingers of one hand with all but the thumb amputated.

The rights and safety of the "people" are so well guarded by statutes that before a druggist is allowed to sell an ounce of *asafoetida* he has to obtain a permit after examination. The dentist has to have his diploma, the physician his. And it is right and just. But the druggist's clerk, the physician, student physician, intern, trained nurse, laymen, anybody who can uncork a bottle and hold a mask or sponge may administer vapors as deadly as the *Upas* or *Echidna Ocelata*. Yet none are so skilled, surgeon or expert anaesthetist, that they can safely produce anaesthesia so profound that under operation no muscular resistance will be manifest, no finite vision can so discern the fine line between death imminent and life in the balance, under such hyper anaesthesia. The carcass of a slaughtered bullock, skinned, beheaded, quartered and hung up, will show muscular contraction when pricked or cut. It were well, in the interest for human life, if surgeons should visit an abattoir and glean a lesson in anaesthesia.

Of course it is more convenient for the surgeon operating that his patient should lie as does the warm cadaver, but the surgeon's skill in deft cutting is not the only, or the main, exhibit. Disease is to be stayed, agony avoided, human life preserved, and not drowned out in capillary and anastomosing circulation by hyper anaesthetization, criminal in its excess. Reader, you may be the next victim.

What then? Are we to be deprived of the priceless boon of painless surgery? By no means. In my next article I will point out the way to absolute and comparative pain avoidance, and safety easily attained and readily learned.

In the case of the woman who took gas "in the usual way" I am forced to conclude that the cause of her death was correctly stated in the verdict of the coroner's jury, "asphyxiation." Not-

withstanding the claim of the dentist operating that the cause was "heart failure." Death and the grave constitute a sad cure for odontodynea.

I wish for reasons plain to all who know me that I might dismiss this part of my subject without further comment. But I should be recreant to courage and duty did I not enter a protest against administering nitrous oxid gas "in the usual way." In the blaze of scientific and mechanical light shining into the eyes of all who have eyes and will open them are traced the words, There is a better way.

Of that method, a safe one, as I am fully convinced, I shall ask my readers to take what Dr. F. M. Richardson says, as authority. Though a young man, M. D. as well as D. D. S., he is a scholar, a thinker, and scientific humanitarian. Of his skill, professional and mechanical, I have ample knowledge. I have seen him extract hundreds of teeth painlessly. His patients remain, while safely anaesthetized, apparently restfully asleep. They all awaken in this life.

He says of nitrous oxide.

NITROUS OXIDE.

Since its discovery N^2O has been used more or less by the dental, but rarely by the medical, profession, owing to the fact that the period of unconsciousness was too brief (about 45 seconds) to admit of any but the shortest of operations. It has never until the past two years been satisfactory to anyone, on account of the shortness of the period of unconsciousness and the cyanotic and dangerous condition of the patient. It was taught in all of our colleges that very little, if any, air should be admitted with the gas, and with the old style inhalers air was excluded and a stage of asphyxiation followed, lasting from thirty to forty-five seconds, during which time the operation was performed. This short period was so brief that none but the most skillful operators were at all successful with it, and the result was that while many tried to operate with it, most of them soon gave it up as unsatisfactory. All this is past, and we can now give N^2O with absolute safety, and for as long a period as desired, not meeting with any of the alarming symptoms encountered with the old method. No cyanosis, a normal pulse, in fact a perfectly normal patient. These very satisfactory

results have all been brought about by an invention of Dr. Geo. Hurd, of Cleveland, Ohio.

Dr. Hurd invented and patented, some three years ago, a gas outfit known as the Hurd 20th Century Gas Apparatus. The old theories have vanished, and new ones have taken their place. Unlike the old method, air is freely admitted with the gas. The nose of the patient is covered with the inhaler, a prop is placed in the mouth, and the mouth left open, free to admit all the air desired. The result is that your patient is truly and safely anesthetized, and has every appearance of one in a natural sleep.

The inhaler is left on and the gas given during the entire operation, whether it be one minute, one hour or longer. The results are all that could be asked for. A safe and painless operation, a prompt recovery and no after effects. My practice is limited to the extraction of teeth under gas anesthesia, and the administration of gas for surgical cases. I have used this method exclusively for over two years and without an accident or approach to one so far as I could see. I am more than pleased with the results.

F. M. RICHARDSON.

(To be continued.)

BROMO-CHLORON, THE NEW DISINFECTANT.

By D. W. Barker, M. D. S., Brooklyn, N. Y.

(Read Before the Second District Dental Society, December, 1902.)

It is my great pleasure and good fortune to introduce to you this evening, and through this society, I hope, to the profession at large, a new and powerful agent in the battle we are constantly waging against disease. The name given to it by its makers is "bromo-chloron," or, by way of explanation, the hypobromo-chlorite of lime. This name, bromo-chloron, which has been copyrighted, is chosen because it emphasizes the important fact that it combines bromine and chlorine and leaves the unessential fact of the lime out of sight. This peculiar salt forms a solution in water to almost any extent, indeed water dissolves more than its own weight. Like all hyposalts it is very unstable, breaking up at the least hint of any foreign acid. Even such weak acids as carbonic acid and the acid which forms in the mouth from the not to be prevented fermentation of the

*See Page 41.

food, the acid made by the bacteria of dental caries, and the like, the acid made in the "ripening" of cheese, will do the same as well as the "acid air" of a brew house. When broken up, the lime being a powerful base, attacks the new acid and nascent bromine and chlorine are freed to destroy any bacteria or any animal matter present either directly or by the formation of nascent oxygen.

THERAPEUTIC EFFECTS OF BROMO-CHLORON.

At the same time the solution has not the least effect upon living animal membranes. Mixed with cocaine-muriate, it has been used as a disinfectant in ocular surgery with admirable results. Curiously enough, when decomposed by CO_2 the effect is to free not only bromine and chlorine, but oxygen also, thus giving at one and the same instant the effect of bromine, chlorine and nascent oxygen.

The chief claim for its use in preference to anything else in my opinion is to be found in the fact that it confines its action to dead matter. While sulphuric and carbolic acids and the like, undoubtedly destroy dead matter, they also attack living matter, assailing even living tooth substance, while this new reagent will not attack the tooth substance nor anything living and *animal*.

Its advantages, then, are these, when compared with other disinfectants: as compared with sulphuric acid and carbolic acid, it never attacks the teeth or lips or gums; in common with them, the new salt destroys bacteria and burns up all sorts of dead material. As compared with sodium and potassium, sodium dioxide and the like, while these do not attack the teeth they do attack the soft tissues and bromo-chloron does not. In one word, it seems to me, I may truly say, that this new reagent has every advantage of all the other reagents and disinfectants without any of the obvious defects of any.

Bearing in mind that bacteria simply cannot live in its presence, it seems to me there is a wide range of usefulness for this agent in our work. It is non-irritant, non-escharotic and non-toxic. It is colorless* and almost odorless and tasteless. Foul odors are at once destroyed. Many uses will readily occur to your minds, but I will only mention the two which occur daily in the practice of all of us.

*When freshly made it is a pale yellowish color due to the presence of a trace of iron in the lime which it is impossible to get rid of. This bleaches out in a short time, leaving the solution colorless. I mention this lest any one finding it change color might think it had spoiled.

As a disinfectant of putrescent root canals, it is, I think, far superior to anything now in use. I am of course familiar with the use of sulphuric acid in putrescent canals, and I am aware that it will do some things that bromo-chloron will not. For instance, I refer to its solvent power in opening up obstructed canals due to the fact that it does attack tooth substance. But sulphuric acid leaves something still to be done as is proven by the foul odor which still remains after its use. The bromo-chloron leaves not a trace of that odor. I have been using it for about six months for this purpose and always with entire success. Invariably the canal is so clean and sweet that it may be filled at the second sitting. I have sealed it up in such canals and never had one show any unfavorable symptom.

Dr. Flagg once said he thought the use of sulphuric acid in putrescent canals the greatest advance that had been made in that line of work in the last twenty years. In all seriousness I may say I believe the introduction to bromo-chloron to be another equally as great.

ABSCESS TREATMENT.

The other use to which I referred is the treatment of abscess. To illustrate: Last summer a gentleman while absent in the country had the misfortune to have the pulp in the lower left bicuspid die. He abandoned his vacation and came home, went to his physician, who lanced the abscess, which by that time had fully developed. A week later I saw him, and found the swelling somewhat subsided, and the abscess freely discharging pus. After opening and cleaning the root canal with bromo-chloron, I flushed the abscess thoroughly through the fistula with bromo-chloron. I discharged several syringefuls into it, until not a trace of pus remained. (I may remark in passing that no precautions were taken to prevent the bromo-chloron from flooding the mouth, and, in fact, it did flood the mouth thoroughly.) At the next visit a week later, the abscess had completely disappeared; the root and tooth were then filled and the patient dismissed; that is, at the second visit, the tooth and abscess having been treated but once. It may be that this was an exceptionally favorable case, because of the recent formation of the abscess, but even so, I think you will agree with me that it was a very quick cure.

DR. J. P. CARMICHAEL'S REPLY TO CRITICISM UPON
HIS SYSTEM OF BRIDGE AND INLAY ATTACH-
MENTS.

Owing to the recent criticism and statements made in some of our dental journals, as well as what has been charged to me in open society meetings, I deem it quite necessary to address this article in answer to what has been said, as well as to state my position clearly to the profession.

At the annual meeting of the Dental Protective Association, December last, it was openly charged that I had by virtue of reading papers and giving clinics on my system of bridge attachment, dedicated the same to the profession, and since had taken out a process patent and was demanding payment from the dentists who desired to use the same. I wish to state that an inventor is allowed a reasonable time for experimental work, as well as two years of actual public use (in addition to the experimental period) in which to apply for a patent. I did not read papers or give clinics for more than two years before my application for a patent was filed, and therefore my rights are fully preserved; the application was pending in the patent office for some time, but this does not affect the validity of my patent. My experimental work, and, in fact, all that I did in this matter, was done under the advice of my patent attorney, and I feel confident there have been no mistakes.

It might be well to state what is covered by the patent, as several dentists have written to me and asked for information regarding my system of work, and after obtaining it have gone out and given clinics and claimed the process as original with them. One of these parties claims to have a process that is not an infringement and advises others to use it, viz., the staple crown. His letters to me can be produced for verification at any time to prove that his ideas came from me. The drawings in my patent show it to be one of the oldest methods used by me. In this connection I would state that under this patent the patient is held equally liable with the dentist, placing liability on him and implicating an innocent party. The patent not only covers the process, but the bridge work itself, and both the right to make and the right to use it.

Cutting grooves in a tooth may have been often done, but the grooving of a tooth for the purpose of making an attachment to be

cemented on a natural tooth for the support of artificial teeth, or to restore any portion of the tooth, to which it is applied, is a direct infringement of my patent. The grooving of the tooth which enters into the process of making my attachment is one of the most essential features. It not only serves as the mechanical retention, but the cervical end, and the side wall of this groove allows the piece to be finished flush with the surface of the tooth, making the adaption equal to that of an inlay and avoiding the overlapping edges. The grooving permits sufficient amount of metal to the edge of the attachment to give the required strength and rigidity, which is so essential to the success of the operation.

My first exhibition of this work was made before the Illinois Dental Society. There were no demonstrations or clinics given of the work, but everything that was done at that time was of a purely experimental character. I found no claimants for what I had produced for at least eight or ten years, but when I formulated my plan of offering this system to the profession and came out with a price upon it, there were many claimants for originality. The Dominion Dental Journal for October last published an unjustifiable article charging that this method was taught in a course of lectures delivered by Dr. George Evans some five or six years ago. Dr. Evans has taken my personal demonstration and is using the same in his private practice. Dr. Evans said: "I read of this work some years ago, and it struck me as being a good thing, and I have spoken of it in my lectures. I knew it was by some western man, but did not know where to place the credit."

The first operations were experimental in character, for it was thought the cement would work out, as in the case of an open-faced crown. I spent much time and money in testing it under different conditions, and finding I could get results far beyond my greatest expectations, I then interested a fellow practitioner, who obtained equally good results. It has required a great deal of work to bring it from the experimental state and crude way in which it was then done to its present state of perfection, which not only covers the bridge attachment under all conditions where the vitality of the tooth is to be considered, but includes as well an attachment in the restoration of teeth either with pure gold or porcelain, and at the same time strengthening the remaining portions of tooth to which it is applied

instead of depending upon tooth tissue, as in the case of filling or inlay work.

Acknowledged as it is by the best crown and bridge men in the country, who have had experience in its use, as the best means known of attaching bridge work, brings us face to face with the question, Will dentists cut off teeth or cover them with gold because this method is patented? This can safely be answered in the negative. We are serving the public in the capacity of surgeon-artist and the needs of the public must be fulfilled. All dentists recognize this fact, and it behooves them to keep pace with the progress made in their profession. If the progressive and best men in our profession concede this and say, "It is unnecessary to cut off good teeth, grind them down and cover with gold to attach bridge teeth," then what up-to-date dentist can afford to cling to the old method? Place the two methods before an ordinary intelligent patient and see which will appeal to him. Do not let your mind dwell upon durability, strength of tooth tissue or vitality, all this has been taken into consideration and thoroughly tested. Cases of from five to twelve years' standing, covering all kinds and conditions, were examined by members of the National Dental Association during the session of 1902 in Milwaukee.

There are a few men in the profession who try to draw the line between what should be patented and what should not be, in the line of dentistry. Dentistry, unlike its sister profession, Medicine, is a mechanical art, and there is no more sense in saying that you cannot involve a natural tooth, thus connecting it with a patentable idea or article, than there would be in saying that you could not patent a wooden leg, a comb to comb the hair, a brush to clean the teeth, an artificial ear drum or an appliance that would serve to masticate the food or assist the natural organs in performing their functions. These matters have been thoroughly looked into by men who are competent to judge, and the patent office was established to protect any and all things that were produced by human skill and brains, thus placing value on the product of ability and guarding this product, encouraging men of genius to perfect and develop their ideas to the end that the public may be benefited. Were it not for this position of the government, the great majority of inventions would be held a secret and carried on by the discoverer during his lifetime, and then be lost to the world. But as it is, the government says,

"We will protect you for 17 years, after which it is free to be used by all."

The most valuable patents to be obtained are process patents and the best are to be found along the lines of chemistry, metallurgy and electricity, and in these patents there are scarcely any mechanical combinations. The government goes still farther and protects a man by copyright, which is purely a brain product or merely the expression of one's original ideas. Before offering my inlaid attachment to the profession I decided, after careful consideration, upon a plan which it was believed would work in harmony with the profession, and at the same time establish the work upon a basis that would insure the success this system deserves.

By my own experience I know the question of paying royalties is the most objectionable feature to patents in dentistry, for to demand this is to pry into one's private affairs; but by the plan I offer this feature is entirely eliminated. (See American Dental Journal, December, 1902.)

Those who have taken my demonstration are not only pleased at having it brought to them in all its perfected detail, but express their approval of a plan that places bridge work where it can be classed among the higher operations in dentistry. A few have said, "They object because it is not free for all to practice." I would like to ask, is dentistry free to all to practice; are colleges and their diplomas free to all; we find but very little free in this world that has a value. "Give what you have to the profession." It reminds me of the saying, "Don't look a gift horse in the mouth."

This system of work, if left to shift for itself, would amount to very little. It requires the expenditure of time and money to make its value appreciable. Although I have read papers and given many clinics, yet very little was accomplished; only those dentists who had received my personal demonstration were using it successfully, while many have been struggling with it in an experimental way, not even understanding the principles involved in the preparation of the teeth, to say nothing of making the attachment.

That the work requires special instructions is accepted as true, and it is now being taught by some of our foremost colleges. Success only came when I put it on a business basis, by insuring my patent against infringement and going right out personally among

the dentists and demonstrating to them the value of the system and its superiority over that of covering teeth or crowning. It has been a difficult matter to meet any and all comers and convince them that this was by far the best way to do bridge work, and were it not possible to clearly demonstrate and prove to the profession what could be done along these lines, and how it should be done, the patent would have expired before the work had gained a creditable reputation.

Without any hesitation I have shown to you as clearly as is possible my position. Do not therefore be deceived by those who for their own selfish purposes seek to detract from the success of others in their lawful undertakings. I am disposed to give the profession the fullest possible benefit of my invention at the smallest cost consistent with the time spent by me in developing it.

By having the work patented it is bringing it before you in a far better manner, giving you the benefit of my many years of experience with this system, confining it to the better class of operators and putting you in a position to successfully use and operate in your practice a system of work that is artistic and will appeal to the esthetic quality of your practice, preserve the health and beauty of the teeth, thus in a marked degree promoting the science of dental operations.

JOHN P. CARMICHAEL, D. D. S.



IS THE REALIZATION OF REASONABLE IDEALS IN DENTAL EDUCATION NEAR AT HAND?

Chas. C. Chittenden, D. D. S., Madison, Wis.

Reasonable ideals in dental education would seem to be defined by those standards as yet unattained and not yet in practical working, but which are admittedly possible and desirable in the estimation of the leading dental teachers, practitioners and examiners of this and foreign countries as expressed and promulgated by them personally and in the councils of the great national and international organizations. In no other country in the world is dentistry esteemed so truly a separate and distinct science and profession as in the United States of America.

Most of our schools are independent of and free from domination by the medical profession and medical schools, which is a condition not at all to be found in the schools of Europe, where our beloved profession is held as a mechanical art tacked onto a background of medical didactics.

Every enthusiastic lover of his profession probably has formed an ideal for himself, or for some one in whom he is interested, which should represent the summing up of his dream of educational perfection in dentistry, but the chief difficulty in the way of the general adoption of these ideals is that they are as various as they are ideal. One man will urge that an academic degree is of main importance, preparatory to the study of dentistry at all, while another will insist that beyond the simplest of common school preparation the wisest educational pre-requisite for dental college is found in a term of pupilage in the office of a successful practitioner where the study of text-books is a mere incident and the education is conducted on the principle carried out by the celebrated Mr. Squeers at Do-the-boys Hall, England, i. e., teaching spelling as follows: "w-i-n win, d-e-r der, winder. Go and wash it."

And then there are all the intervening ideals that can be thought of, as wide in variation of detail and almost as numerous as the personnel composing the dental profession, and it will not be denied that there is fully as great a percentage of dreamers, cranks and would-be prophets and leaders among us as is to be found in any other calling. It is out of the multitude of counsel, based on actual experience and effort, that reasonable standards can be evolved.

The educators and examiners have been each and all striving for wise standards, that will fill the educational ideals for some years to come, and also be practicable and attainable as a general fair minimum requirement by all educational institutions worthy the name. The dental literature for the past several years has overwhelmingly pointed to high school graduation and four years of special dental training as the minimum place where standards could be with safety set up and permanently established. The variations in standards for high school in different portions of our country are great. Indeed in some states having dental schools there is practically no established high school worthy the name. But like all other commodities, schools accommodate their curriculum to the demand, and, at any rate, equivalents can be easily and fairly set up through the system of preliminary examination now in operation under the rules of the two national associations of faculties and examiners, so that the decision as to what is a reasonable requirement in high school graduation can be very easily attained. And even where there are elective high school courses to be had, it is but a matter of detail to elect and maintain a reasonable equivalent. The college course has been advanced for several years to three years for graduation, and the addition of the fourth year to the curriculum which is to be inaugurated in the present year in all our schools completes what may be properly denominated reasonable ideals in dental educational standards.

If all the schools composing the N. A. D. F. were departments of properly endowed universities, and thus relieved of the everlasting commercial handicap, there would be no question as to the immediate establishment of reasonable ideals. But the fact obtains that a large majority of them are practically struggling for existence and feel they cannot be too particular in their standards.

Having fairly determined what should be demanded and established in standards, the question arises, who shall establish and be responsible for the carrying out of these standards? The answer is, the colleges through their national associations and the examiners standing behind, protecting, insisting and encouraging by the official authority that is in them vested. This being accepted as the proper method, all obstacles that beset the path and intercept the attainment of the goal must be squarely faced, with the view to most directly overcome them or pass around them in the onward course. The

men to be convinced and enlisted and the means, the employment of which will most likely and directly conduce to the ends sought, are important. What is the power that must be invoked?

For over forty years dental schools have been pursuing their steady growth in size of classes and in numbers without there having been set up a single fixed minimum educational requirement for beginning a school course that could be in any sense claimed to be an established prerequisite. The demand for skilled practitioners was so great during the period of phenomenal growth and development of this great country following the close of the Civil War that perhaps it was as well that this should have been so, but to-day the demand is not so much for mere artisans as for educated, scientific, professional—gentlemen, if you please—who shall be competent to take the helm and guide the destinies of a great profession that is more nearly an exact science than any other, except it be, perhaps, the law.

Attempts at the raising of requirements have been continuous, and the past five years have seen the establishment of two years' high school preparation, and the present year inaugurates the four-year course. This advance up to date, in spite of the prediction of the pessimists and conservatists that putting up the bars would financially ruin the smaller schools, has been followed by an era of unprecedented prosperity to the schools, and when it has been honestly enforced the quality and character of the college output has been in the main materially improved.

The universities have been held back for years, hoping by slowly raising the educational requirements to enable the weaker schools to keep pace and so hold the national body together. It would seem that this has proved a mistaken policy, for the proceedings of the national association of colleges are filled with charges and trials, convictions and fines against school after school for the violation of the plain rules of the body as regards the receiving and giving standing to students taken into their classes, with no other earthly objection apparent than to swell the income of the struggling institutions. This is, of course, human nature, but it is none the less scandalous, notorious and disreputable in the highest degree and should be branded with the condemnation of the profession at large.

A case in point of what is constantly going forward in the effort

to swell classes at whatever risk (and the half of which is never brought to light) is that of an endowed university which was compelled to refuse admittance to its classes the present year to about thirty matriculants because they did not possess the prerequisite education for admission to the third year of high school, as required by the rules of the two national associations. These men applied elsewhere, and most of them, it is believed, are now enrolled in the classes of other schools belonging to the association.

Another instance is that where one school sought (and did in some degree succeed in its undertaking) to swell its own classes by sending out emissaries, cappers or steerers, offering in wholesale lots to almost the entire classes of a competing school reduced tuition rates varying from \$25 to \$65 for the \$115 advertised tuition fees.

Another instance of flagrant attempts on the part of schools in the full membership in the N. A. D. F. to evade the rules is where one of them, by the admission of its dean, has taken into its freshman class for regular work a number of matriculants who had signally failed to pass the preliminary examination (set up by the national association as its minimum standard for admission to classes) before the duly accredited appointee of the state superintendent of public instruction, and then attempting to build up some sort of excuse for its conduct by not only attacking the educational fitness of the examiner, who, by the way, is the honored principal of a district school in a large and flourishing northern city, but also by attacking publicly his character as an honest man and public servant, and thus attempting to excuse itself for having these men in its classes at all, even under the name of "specials" and "in our preparatory classes, besides doing regular freshman work." And this school is evidently banking on being able to control enough "influence" in the national association to cover up or else explain away its conduct, or, at the most, escape with a "fine," as though payment of money could in any sense atone for the violation of the law of common honesty.

There is also the lamentable spectacle of schools posing as the very "ideal" of everything desirable and whose official heads are shocked and hurt at the mere suggestion that any one should presume to criticise them or question their reputability, that are constantly and persistently flooding the secular press of the country with paid pictorial advertisements of their classes, football teams,

handsome, noted and extra skilled teachers and instructors, exploiting the peculiar advantages of the institution and its professors over all competitors, all done in a style to put to the blush the common advertisers of the cheap "dental parlors" type.

Such things unchallenged and unrebuked certainly do not tend to the realization of ideals and most certainly do not offer incentives to enter our profession to the class of young men our profession most lacks. This is the sort of thing which has always stood in the way of the proper establishment and maintenance of ideal standards. It would seem if we are to establish ideals for practical use that the public stamp of condemnation should be put on such practices and the guilty institutions incontinently thrown out of the national organization and made a public example of.

It is futile for this body, composed of the membership of the "reputable" colleges of this country, to adopt for the government and conduct of its members certain rules and standards and methods of procedure based on high ideals of ethics and mutual protection, to be accepted by the profession at large as a criticism of the schools' reputability, and then devote a large part of its annual sessions to inventing excuses and apologies for flagrant and open violation of the letter or spirit, or both, of these standards and rules, thus giving to the outside world the very reasonable impression that the body is dominated by anything but the real spirit of building up ideals that their rules and standards would indicate. It is high time that the college association awaken to the realities of the situation. There is at this time, as a result of years of struggle and contention between schools and the examiners for the establishment of specific standards, accepted by the schools and made by the boards their measure of reputability—there is now, I say, a period of mutual accord and trust and peace between these bodies which should be the harbinger of better things to come. The schools are assured of protection by the boards from any infringement and violation by competing schools, made and provided that the college association will purge itself of the violators and enforce its own rules without fear or favor.

In order that ideals may be sooner and more surely established and maintained the boards of examiners, with all fairness and reasonable consideration for the interests of honest educational efforts, must, nevertheless, be mindful of their official oath to carry out

not only the letter, but also the spirit and intent of the law for the protection of the public. They must, in national association, stand squarely together on reasonable requirements and, more than all else, have the courage of their convictions in passing on the character of the colleges and their output, constantly having in mind that the goddess Justice does not close one eye and blink the other when on duty.

If the schools will rise to the occasion and set the pace the examiners will most assuredly help and sustain them in holding it steadily up. If N. A. D. F. will not purge itself and be honest in enforcing its rules there will be but one way to move the profession forward, to-wit, the better and honest schools will naturally unite themselves together and the examiners must join them in a newer and higher emprise on a surer and, it is to be hoped, better laid foundation.—*Journal of the American Medical Association.*

DISCUSSION.

Dr. Eugene S. Talbot, Chicago—There is perhaps no one in the country so well posted on the management of dental colleges as the essayist. He is one of the foremost men who has been looking forward to the future of dentistry and has done a great deal in the way of legislation. He would have been here at this meeting, but for the fact that the legislature is now in session and changes are being brought about in the state law in Wisconsin. He wished me to extend his thanks to the association for its courtesy in having his paper read and regrets that he could not be present.

There is no doubt that there is a good deal of underhand work going on in some dental colleges. I know of three or four dental schools in which agents are sent out soliciting students. A percentage is paid these agents for procuring the students. There are many other glaring deficiencies in the method of obtaining students. I was somewhat surprised that more was not said along these lines.

I understand it is the intention of the national board to bring this subject before their meeting for the purpose of discussion. I believe the time has arrived when the departments of dentistry connected with universities will have a large influence. Now that the universities have a method for the purpose of uniforming the education in all their departments and also for the purpose of raising the standard of qualification for admission to these different departments, the time is near at hand when the graduate of dentistry in

this country will be on an equal standing with the graduates of other specialties.

Dr. M. H. Fletcher, Cincinnati—I do not know that I have much to say, except that I am interested in bringing about a higher standard of dental education. As a member of our State Board of Dental Examiners for five years, I have been greatly chagrined to know that our laws compel examiners to give such elementary questions. I would consider a first-course student in either dentistry or medicine below the standard if he could not pass such an examination. There is every reason, from my standpoint, for extreme effort in raising the standard, and no doubt such men as the essayist and those interested in bringing it about need the co-operation of all good men in this work. I sincerely trust that the day is not far distant when the standard of efficiency may be raised.

Dr. M. L. Rhein, New York—It goes without saying how much we are in sympathy with the elevation of the standard of qualifications for admission to a dental educational school. I feel personally that Dr. Chittenden made his paper a little weaker than he intended when he spoke of the smaller colleges being irretrievably hurt by the length of the course, because I feel very much on this subject as was expressed by Dr. Billings, the president of the association, in his opening address, that the time has come when the smaller educational institutions must go out of existence. There is no use for them at the present time. I would even say that I think the idea of proprietary educational institutions is a mistake. I think this section should come out flat-footed on the question of men enjoying a revenue in proportion to the yearly income of the institution with which they are connected. That has invariably been one of the worst features connected with proprietary dental education in this country. If the efforts to raise the standard of dental education is a blow at this sort of institution, it is a blow that is well merited and with which, personally, I am in full sympathy, because the sooner they are eradicated so much the better for the interests of the country at large. How much better it would be if there were fewer institutions where there is a salaried position of an amount sufficient to enable the proper teacher to be selected irrespective of the necessity of earning his living by the practice of his profession. It is impossible at the present day for the real professor of any branch in a dental institution to be engaged in the active practice of his calling.

His attention to practical dentistry should be confined to the infirmary division of the institution with which he is connected. That is the idea we have to look forward to in dental education. It makes little difference to my mind how much we raise the standard, if we fail to accomplish the real results.

There is just one little point of difference that I have with Dr. Chittenden in his paper, that is, the words of criticism that he makes at institutions of character for keeping themselves advertised, as he says, in the eye of the public, advertising their superiority over the smaller institutions. I hardly believe, if I could talk this matter over with Dr. Chittenden, that he would see this in the light in which he appears to, judging from his paper. To my mind, it is one of the means that it is necessary to use to drive out of existence the inferior institution. It is impracticable, in my view, to compare any one of our great institutions with an advertising dental parlor; so, I think, Dr. Chittenden has made rather an unfortunate mistake in a comparison of this kind. These large institutions are constantly before the eyes of the public in the public print. A very necessary form of the education of the young men to-day is the athletic surroundings of the university. There are differences of opinion regarding their value, but at the present time they have the sympathy and the accord of the American people. I myself believe that they play an important part in the welfare of our educational institutions. I believe they do good, and can do harm. Devotion of time to them to the neglect of studies is the same evil which besets every young man in all surroundings of life. A great deal of the advertising of departments of universities is of such a nature as is not directly sought for by these universities. A school is frequently written up in the public press without any cognizance on the part of the faculty. This is a sort of competition which will aid in developing the better features in opposing institutions.

Mr. T. Constant, Scarborough, York, England—I have so little knowledge of the condition of education in this country that I am hardly in a position to speak on the subject. At the same time, speaking generally on the question of education, a subject to which I have given some attention, I think the most necessary thing in considering the educational conditions of any kind is to insist on a very high standard of preliminary education. The time that is necessary to give to the application of technical knowledge, when the mind is

very receptive, as in the case of medicine and surgery, and especially in dentistry, is so largely devoted to the requirements of special knowledge that one's general knowledge is liable to be neglected. I think, therefore, that prior to examinations of special studies, one's general education should be as complete as possible. I feel that the fewer educational centers we can have the better. The facilities for travel now are such that distances are not the consideration they used to be, so that one great objection to having centers of education is removed. I therefore think that great harm is done, and I believe from my little knowledge, particularly so in this country, by multiplication of centers of education. On the same lines I believe myself in the uniform standard of examinations. I think if all the states of America united and had one national standard in examinations to which it became necessary for every student to present himself before being licensed to practice it would be a good thing. He could then succeed in taking the ordinary university degrees. License to practice, I believe, should be determined by national examining centers.

Dr. W. E. Walker, New Orleans—I believe the idea of the formation of great universities with dental departments is the correct one, and that the working out of the plan as it is being done in Harvard is really what it ought to come to; that there should be the unification of preliminary requirements for all the different departments instead of having one for medicine and another for dentistry, the basal studies being taken alike by all, and capped by the special work according to the field a man intends to make his life work, though the fingers should have some training throughout.

The question of preliminary requirements is a very difficult one to handle. Because it was found that when the dean examined the students he was so influenced, not only by his desire for the college to grow, but by the forces brought to bear on him by other teachers, that he would sometimes admit students that ought not to be admitted, it was thought to overcome that by the requirement that the dean should no longer examine students for entrance, but that the state or county superintendent of education should have the matter in hand. The law does not specify whether it shall be the superintendent of the county in which the school is located or in which the student resides. The result is that there is a different standard. We find many boys coming from the country where the standards

are low and where the county superintendent will allow himself to be influenced by personal feeling and give him a certificate which he would not have received had he come to the educational center to be examined by the superintendent of the county in which the school is located, where the standard would be higher. I have an instance in mind in which a student was examined and refused by the examiner of the county in which the school was located and went home and was passed by the superintendent of the county in which the student resided. There must, therefore, be some changes in that direction. Just how it is to be done I do not know. A national body to examine all applicants would probably work most satisfactorily.

Dr. Chittenden*—The only comments I would make in discussion of this paper on educational ideals is as to the object and intent of the paper itself. As you are all aware, I have most excellent opportunities officially to gather correct information concerning what is going on in the dental colleges, some of which is open to criticism and condemnation. It was my desire, in this unofficial way, to acquaint the profession at large with the irregularities, quibbles and sharp practices that are being used and which the schools themselves appear to have the idea are unknown and never to be known by the public. It has seemed to me there has been enough posing and not enough plain honesty of purpose. The paper only hints at a lot of abuses which have, to those watching closely, become offensive, both in practice and frequency of occurrence. It is time the profession at large is fully informed of the situation and given an opportunity to speak out, demanding reformation. The keynote to the condition referred to is, of course, commercialism. There is no question that if honesty could be placed before money interest in the conduct of all the schools for a single year, and standards put where they reasonably belong, that the commercial side of dental education would take care of itself, and financial interests involved be greatly benefited, and it is a great wonder that the educators cannot or will not see this fact. The intent of the paper in detail was to throw some flashlights in silhouette that would bring a quick, sharp understanding of the situation into view, and nothing said in it has been engendered by or intended to convey any sense of bitterness or unfairness to the schools themselves. I have reason to believe the National Association of Dental Faculties will be given an opportunity this summer to squarely meet this situation, and I

most devoutly hope and pray, for their own and dental education's sake as well, that they may meet it squarely in the spirit of true professional honesty and singleness of purpose.

*Dr. Chittenden not being present, his paper was read by Dr. W. E. Walker, New Orleans, and these closing remarks by the author have been furnished subsequent to the session.

THE NEW DENTAL LAW AS ENACTED BY THE LEGISLATURE OF WISCONSIN, 1903.

No. 68, S.

Published May 26, 1903.

CHAPTER 411.

An act to amend chapter 56c, entitled "Of the state board of dental examiners," of the statutes of 1898, being sections 1410e, 1410f, 1410g, 1410h, 1410i, and 1410j, as amended by chapter 97 of the laws of 1901.

The people of the State of Wisconsin, represented in senate and assembly, do enact as follows:

Section 1. Section 1410e of chapter 56c, statutes of 1898, is hereby amended * * * so that said section when so amended shall read as follows: "Section 1410e. The state board of dental examiners, as heretofore constituted, is hereby continued. It shall consist of five practicing dentists, at least three of whom shall be members of the Wisconsin State Dental Society. The members of such board shall be appointed by the governor for the term of five years and until their successors are appointed, and any such appointee may be selected by the governor from among such persons as may be recommended to him therefor by the Wisconsin State Dental Society. Vacancies shall be filled by the governor for the unexpired portion of the term. It shall be the duty of said board to enforce the provisions of this chapter."

Section 2. Section 1410f of said chapter 56c of the Wisconsin statutes of 1898 is hereby amended * * * so that said section when so amended shall read as follows: "Section 1410f. The officers of the board shall be a president and a secretary, who shall be chosen from the members thereof in such manner and for such terms as may be provided by the by-laws. One meeting of the board shall be held in the month of June in each year and at such place as may be fixed; other meetings may be called in such manner and held when and where the board may determine. A majority of the mem-

bers shall constitute a quorum. The secretary's record of the proceedings of the board shall be open to public inspection at all reasonable times."

Section 3. Section 1410g of said chapter 56c of the statutes of 1898 is hereby amended * * * so that said section when so amended shall read as follows: Section 1410g. Every person who was engaged in the practice of dentistry in this state on the thirtieth day of September, 1885, may continue such practice without incurring any of the liabilities imposed by this chapter, by annually causing his name and residence or place of business to be registered by said board, who shall keep a book for that purpose. Such registration may be made by furnishing proof of the fact of being then so engaged and paying a fee of one dollar. All persons licensed by the board shall annually register in like manner. A certified list of the persons registered in each county shall be furnished the clerk thereof by the board of examiners and the names on such list shall be registered by such clerk in a book kept for that purpose. Each registration shall expire on the thirtieth day of September following its entry. Every person who, prior to the passage and publication of this act, was duly licensed by the board to practice dentistry in this state, and who has annually registered according to law, shall be allowed to continue to practice dentistry in this state, so long as he shall conform to the requirements of said chapter 56c, as hereby amended, and said board shall have power to revoke the license of any person who has failed or may hereafter fail, to annually register as herein provided, if, for ninety days after notice in writing from said board of such neglect, such person shall fail to so register.

Section 4. Section 1410h of said chapter 56c of the statutes of 1898 is hereby amended * * * so that said section when so amended shall read as follows: "Section 1410h. It shall be unlawful for any person who was not on the thirtieth day of March, 1885, engaged in the practice of dentistry in this state, to commence such practice until he shall have obtained a license as hereinafter provided. The state board of dental examiners may, in its discretion, except as otherwise provided in this section, license, without examination, only a regular graduate of a duly incorporated and, in the judgment of said board, reputable dental college, in which the applicant shall have pursued four full courses of lectures of at least seven months each, and which requires for admission thereto a pre-

liminary education equivalent to that required for entrance to the junior class of an accredited high school, or a graduate from such college who, having attended the last full course in the college issuing the diploma, shall have received his dental education, prior to said last course, in a dental college having an equal standard as to courses of study and preliminary requirements. Any regular graduate of a duly incorporated and, in the judgment of the board, reputable dental college, and any person who shall have been regularly engaged in the reputable practice of dentistry consecutively for four years immediately preceding his application for examination, or any person who has served as an apprentice to a dentist, engaged in the reputable practice of dentistry, for a period of five years, who may desire a license to practice dentistry in this state, may appear before the state board of dental examiners at any regular meeting and be examined in reference to his knowledge and skill in dental surgery. If such examination shall prove satisfactory to said board, the board shall issue to such person a license to practice dentistry in this state, in accordance with the provisions of this chapter. All licenses shall be signed by the members of the board and be attested by the president and the secretary. Every license shall be prima facie evidence of the right of the licensee to practice dentistry in this state, in accordance with the provisions of this chapter. Said board shall, however, license, without examination, any regular graduate of a regularly incorporated, and, in the judgment of the board, reputable dental college of this state, who shall be, at the time of the passage of this act, a regularly matriculated student, in regular and constant attendance upon the classes of such college, and who shall continue such attendance, taking the full prescribed course until his graduation.

Section 5. Section 1410i of said chapter 56c of the statutes of 1898 is hereby amended * * * so that said section when so amended shall read as follows: "Section 1410i. Any person who shall practice dentistry in this state, without being annually registered or without being licensed as herein provided, shall be punished by a fine of not less than ten dollars nor more than one hundred dollars for each and every offense; each patient treated shall be a separate offense; provided, that this chapter shall not be construed so as to prevent any physician or surgeon residing in this state, duly licensed according to the laws of this state to practice his

profession therein, from extracting teeth or performing any operation upon the palate or maxillary bones. A person shall be deemed to be engaged in the practice of dentistry within the meaning of this act who shall treat diseases or lesions of the human teeth or jaws or perform operations of any kind thereon, or manufacture or insert any artificial teeth, fixtures or appliances for the restoration, regulation or improvement of the dental organs; but nothing in this act contained shall be construed so as to prevent a bona fide student, in regular attendance upon any dental college in this state, from practicing dentistry, under the direct supervision of one of its teachers, in the regular infirmary of such college.

Section 6. Section 1410j of said chapter 56c of the Wisconsin statutes of 1898 is hereby amended * * * so that said section when so amended shall read as follows: "Section 1410j. Said board may charge each person applying for a license to practice dentistry in this state, whether such applicant be examined or not, a fee of ten dollars, which, in no case, shall be returnable, and shall charge for each annual registration one dollar. From the funds so received, all proper and reasonable expenses of the board, and each of its members, incurred in carrying out, maintaining and enforcing the provisions of this chapter, may be paid. No part of such expenses shall be paid out of the state treasury. Any excess of receipts over disbursements shall be held by the board to meet future expenses of the board and its members. The secretary of the board shall have custody of its funds and may be required to give a bond in such terms as the board may direct. An annual report of the proceedings of the board, containing an account of all moneys received and disbursed, pursuant to this chapter, shall be made to the governor on the thirtieth day of September."

Section 7. Section 1410k. There is hereby added to said chapter a section which shall be known as section 1410k, which shall read as follows: "Section 1410k. Said state board of dental examiners shall have power to inquire into the qualifications and representations of any applicant for a license to practice dentistry, and for such purposes shall have power to send for witnesses, papers and documents and to administer oaths."

Section 8. This act shall take effect and be in force from and after its passage and publication.

Approved May 21, 1903.

COPY.

MEETING OF THE MISSOURI DENTAL ASSOCIATION,
HELD AT KANSAS CITY, MO., MAY 19, 20, 21, 1903.

Reported by R. C. Brophy, M. D., D. D. S.

The thirty-ninth annual meeting of the Missouri State Dental Society was held at the Midland Hotel, Kansas City, Mo., on the 19th, 20th and 21st of May, 1903. Kansas City is an excellent convention city and the Midland Hotel served admirably as a meeting place. In addition to a very creditable representation of Missouri dentists many practitioners attended the convention from other states, Kansas particularly being prolifically represented.

The meeting was called to order at 10:30 of the 19th by the president, Dr. S. C. A. Rubey of Clinton, and the entire first half-day session was taken up by roll call and consideration of the committee reports, the latter furnishing evidences that the society is in a flourishing condition.

At the afternoon session of the first day, the visiting delegates and guests were welcomed to the city by City Counselor R. E. Ingraham, who acted for the mayor of the city, the latter being unable to attend the meeting through illness.

The address of the city counselor was of an order which caused every one to feel safe and secure, the assurance given by the speaker that the police department had been instructed to pay no attention to strangers wearing the badge of the meeting being particularly pleasing to the St. Louis delegation and the friends of Dr. Root of Kansas City, Kansas.

Dr. Burton L. Thorpe of St. Louis responded for the convention to the address of welcome, expressing appreciation of the courtesies extended by the municipality and particularly of their kindness in relaxing for the time the rigidity of their rules relating to disorderly conduct and breaches of the peace.

President Rubey followed with his official address, in which he commented upon the profession's progress during the past year and upon the many improved methods of practice now being used. He also spoke at some length upon the need of more thorough courses in the dental colleges and a higher standard of preliminary requirements for entering the college.

Drs. F. M. Fulkerson of Sedalia and J. D. Patterson of Kansas City opened the discussion of the president's address, and both

argued that the raising of the standard of preliminary educational requirements had a more important bearing upon the future of the profession than anything else; Dr. Patterson particularly vigorously upholding the college curriculum and the work done by the colleges in educating the dentist.

Dr. A. J. Prosser of St. Louis raised the point that inasmuch as the state board grants licenses to practice dentistry to men who are not graduates of colleges at all, the bearing of the colleges upon the standard of excellence of the profession is made at least of questionable importance. This touched a spring which landed Dr. B. L. Thorpe of the board in the center of the floor with an animated argument in support of the board.

Dr. J. B. Wilmott of Toronto, Canada, following in discussion of the paper pointed out differences existent in dental educational matters between "the States" and Canada.

"Some Doubts on Anaesthesia" was the title of a paper by Dr. T. W. Arnold of Butler. The paper dealt with experiences of the essayist in the use of anaesthetics, and particularly with those experiences which had not turned out just to his liking. The matter of the so-called pressure anaesthesia in the treatment of the teeth commanding particular attention in the paper. Dr. W. M. Carter of Sedalia and J. F. Austin of St. Louis opened the discussion of this paper, and both favorably commented upon the value in practice of the latter named method of obtunding sensation in removing the pulp and in other operations upon the teeth.

Dr. E. K. Wiedelstadt of St. Paul recommended chloroform as a pressure anaesthetic. Many others joined in the discussion of the paper, the general trend of it being favorable to this practice.

A paper upon "Forming a Cavity" was read by Dr. G. W. Musgrave of Ash Grove, Drs. Kennerly and Prinz of St. Louis and Searles and Wiedelstadt of Minnesota engaging in its discussion.

At the evening session the first paper read was by Dr. W. M. Carter of Sedalia. This paper, entitled "Mutilation of Teeth" and the discussion of it was decidedly gingery. The essayist jumped onto the profession with both feet for "mutilating" the teeth, as he termed the cutting away of sound teeth in prosthesis. Drs. Fletcher and Linsley of St. Louis and Patterson and Hungerford of Kansas City discussed this paper, and while the essayist did not imply that he made use of, or approved of the use of, shell crowns anteriorly,

one of those discussing the paper let drop a very broad inference that the country dentist is the sole committer of this sin, and the essayist, in closing the discussion, with decided animation, denounced the habit of city practitioners of casting aspersions upon the professional sense of the aesthetic of their brother dentists located in the country.

Dr. C. L. Hungerford of Kansas City next read a paper upon the subject of education, in which, amongst many other things, he said that while there is an abundance of dental colleges there is a serious dearth of teachers specially fitted to do justice to their special work.

A paper by Dr. J. B. Wilmott of Toronto, Canada, was next read, entitled "Some Aesthetic Failures in Dental Prosthesis, With Suggestions for Their Avoidance."

"In the making of an artificial denture," said the essayist, "the three principal points to be considered are: First, restoration of the lost function of mastication; second, restoration of the partially lost power of distinct articulation; third, restoration or preservation of the profile and expression of the face."

Allowances must be made in making the case for the absorption of the muscles of the mouth after the teeth are extracted, and also for the shrinkage of the arch. This is one great fault with artificial dentures, the patient's face presenting in many cases a shrunken appearance denoting old age, when really the patient is not an elderly person.

Lines appear which could be avoided.

Another great fault is "too much teeth." This is frequently the fault of the patient, as the usual thing for a patient to do is to insist upon a much smaller tooth in the artificial denture than they had when they wore their own teeth.

There are six faults that are the most general in artificial dentures, as follows: The teeth are too small; they are too light in color; too perfect in alignment; not adapted to the age of the patient; muscles of expression not sufficiently supported; expression injured by too close an occlusion.

The first four faults are frequently the fault of the patient, who usually wants small, white teeth, and wants them set perfectly. The average dentist follows too closely the "ideal perfect" in making his case, and as a result his denture shows plainly that it is artificial.

My idea is to follow as closely as possible the patient's own mouth and teeth, if the teeth are in the mouth when I take the case.

Strive to preserve as far as possible the original expression. The "ideal perfect" mouth is too rare to use as a model. The discussion of the paper was led by Dr. Walter Bartlett of St. Louis and Dr. K. P. Ashley of Kansas City. Drs. Hungerford, Carter, Gray of Nashville, Tenn., Sullivan, Lowry, Patterson, McWilliams and Fletcher also taking part.

Another paper, or rather address, which evoked much interest was one by Dr. E. K. Wiedelstadt of St. Paul, under the title "Certain Conditions in Operative Dentistry and How to Meet Them."

Dr. Wiedelstadt said: "One of the errors made by many dentists is that fillings are made too closely together; there is no separation between the teeth, and as a consequence food settles close to the gum and in crevices where it is impossible to get at it, and causes decay. I wish to protest against that man who begins his professional career by making poor operations, not caring except just so things go his way. Is this right? Does not our knowledge teach us different? Does it not demand a different class of operations? When a man studies failures it tends to send him forward and make him of greater use to humanity. I have heard practitioners say that they have followed one method for twenty-five years and that they would never change. Suppose that in this enlightened age a city should close itself within itself and say that nothing could change for twenty-five years, it would be a back number, and that is what these dentists are. We are bound to go ahead. Decay in teeth is greatest at points of contact, and these points should be as small as possible. In fillings the point of contact should be made small so that the filling may be as good as possible. In finishing gold fillings, many use polishing strips and disks, but the time for this is almost ended, and numbers have abandoned this method for that of trimmers. By using the trimmer on a filling more perfect work is secured and better results obtained."

The discussion of this paper was opened by Dr. Hungerford of Kansas City and Dr. Prinz of St. Louis, and several others followed. There is never any trouble experienced in getting up a discussion when Dr. Wiedelstadt is around with his ideas on cavity preparation on tap.

Further papers were read and discussed as follows:

Dr. B. Q. Stevens, Hannibal, "When and How Shall I Brush My Teeth?"

Dr. Burton L. Thorpe, St. Louis, "Cavity Linings."

Dr. D. J. McMillan, Kansas City, "Combination Fillings."

Dr. R. C. Brophy, Chicago, "Lower Dentures."

Dr. Herman Prinz, St. Louis, "A New Drug Combination for Treatment of Putrescent Root Canals."

Dr. Gustavus North, "Temperaments."

Dr. L. E. Jenkins, Fredericktown, "My First Dental Trip."

Dr. H. S. Vaughn, Kansas City, "Points Favoring a Porcelain Inlay."

Dr. J. J. Brown, Macon, "Gold and Amalgam Fillings."

Dr. Villery P. Blair, St. Louis, "Resection of of the Mandible for the Correction of Faulty Relations of the Dental Arches."

The latter paper, which was illustrated by stereopticon views, was a decidedly interesting one, through the fact of its originality and the heroic nature of the procedure described. Retraction and protraction of the lower jaw are corrected and occlusion perfected, as was shown by the results of several practical operations—by incisive operations upon the body of the mandible at the ramus.

On the forenoon of the second day of the meeting a large number of interesting clinics were given.

Dr. A. C. Searle of Owatonna, Minn., filled a mesio-occlusal cavity in an upper left first molar (of a live subject, as a newspaper put it), preparing his cavity along the Wiedelstadt lines of extension. Dr. H. B. Purl of Kirksville devoted himself to a demonstration of what he considers advantages of the xylonite plate. Dr. L. A. Young of St. Louis gave a practical demonstration of extirpating the pulp, using aseptic broaches, and also of filling the canal with oleo-percha. Dr. C. B. Sawyer of Jacksonville, Ill., demonstrated gold inlay work; Dr. J. D. Patterson of Kansas City, adaptation of Logan crowns; Dr. H. H. Sullivan of Kansas City, placing a filling in a central incisor, using Vernon's gold; Dr. C. A. Palmer of Grinnell, Iowa, swagnig plate; Dr. A. J. McDonald, Kansas City, and C. D. Lukens, St. Louis, Orthodontia devices; Dr. R. C. Brophy, Chicago, die making and fusing 25 per cent platinum solder with gasoline blow pipe; Dr. Otto J. Fruth, St. Louis, seamless crowns; Dr. W. V. B. Ames, Chicago, precipitated silver and oxyphosphate cement; Dr. Walter Bartlett, St. Louis, swinging in anterior dum-

mies from posterior attachments by the use of bars; Dr. P. H. Morrison, St. Louis, removable canal fillings, the using of metal points, which are allowed to project from the canal far enough to be readily grasped for removal; Dr. J. G. Hollingsworth, Kansas City, the Park system of seamless crowns.

A banquet was held by the convention at the Midland Hotel on the night of the second day. President Rubey acted as toastmaster and in that capacity he disclosed much cleverness. "Public Duties of Professional Men" was the first toast called, and this was responded to in a very able and eloquent manner by James A. Reed, mayor of Kansas City, Dr. Wilmott of Toronto, Canada; Dr. Wiedelstadt, Dr. Thorpe, Dr. Hungerford, Dr. Root and Dr. Achelpohl and General Boyle of Kansas responded to other toasts, all doing the pleasant occasion proud.

Officers elected for the ensuing year were as follows: President, J. H. Kennerly, St. Louis; first vice-president, Fred W. Franklyn, Kansas City; second vice-president, Fred H. Achelpohl, St. Charles; recording secretary, H. H. Sullivan, Kansas City; corresponding secretary, S. F. Bassett, St. Louis; treasurer, J. F. Fry, Moberly. The 1904 meeting will be held in St. Louis.



NEW BOOKS RECEIVED.
"SUCCESS IN DENTAL PRACTICE."

A Few Suggestions Relative to the Most Approved Methods of
Conducting a Practice.

By CHAS. N. JOHNSON, M. A., L. D. S., D. D. S.

Professor of Operative Dentistry in the Chicago College of Dental
Surgery; Editor of the Dental Review, and Author of "Prin-
ciples and Practice of Filling Teeth," published by J. B. Lippin-
cott Company, 1903.

This is a little work the value of which has an importance far
beyond what one might give it in a casual glance at the title. In
the first place it is written by a man eminent in the dental profession,
and one especially gifted to write and speak and to convey to others
in most fluent, clear and comprehensive terms any information he
feels moved to communicate;—a born teacher.

And furthermore it can be vouched for by all who know Dr.
Johnson—and who in our profession does not know him?—that here
is one who practices what he preaches, which is not always the
case with writers. Dr. Johnson is scrupulously particular in carry-
ing out in his daily life and practice all that he upholds in this little
volume as the proper course, and who himself has made an en-
viable success of the practice of dentistry, and his career as a citizen.
Who, then, could better write such a book!

It is no doubt true, as mentioned in the Preface, that dentists
as a class are seriously at fault with regard to the methods em-
ployed in the business management of their affairs. This may be
true of other professional men as well. The curriculum of a pro-
fessional course has little if anything bearing upon the business end
of professional affairs, and the most important part of any calling
is the business end—that which brings a livelihood, for that is ex-
istence, whatever else may be the motive in the selection of a calling.
Few in this world can ignore the business part of life and follow
dilettante inclinations. Hence, any book which is a guide to those
important features which have not come into the professional
training and yet means so much in the effort towards success should
be hailed with welcome greeting, and no doubt will be.

To the student who has but recently stepped from the class-
room this little work is invaluable. It maps out a course for him

in every detail of his business and ethical duties that could not be very much improved upon, and, if he is reasonably skillful and proficient as a dentist, is a veritable guide-book to success.

Every beginner in the practice of dentistry bumps up against many of these problems early in his career, and later, that no education in his dental college course has touched upon or given a hint how to meet; and yet they are as important as to know how to fill a tooth.

A perusal of the book by anyone in the practice of dentistry will not be amiss, and many a man with years of experience behind him may get valuable suggestions and wise advice. Many a man who has been but moderately successful or positively not successful may get a hint, if he will heed it, that may turn the tables for him in due and reasonable time.

It is a book that is uplifting, and good in every line. It fills a want in dental literature and should be in the library of every dentist.

R. B. T.



DENTAL OPERATIONS AND THEIR REMUNERATION.

BY CLYDE S. PAYNE, D. D. S., SAN FRANCISCO.

In this article I wish to take a stand for good work and a proper remuneration.

A fee that will be consistent. First for the use of the best materials, a sufficient remuneration that the dentist may afford to give the case his most careful attention and will enable him to spend sufficient time, as in plate work, to select teeth of the right color, suitable to the age and temperament of the patient, and if necessary to destroy several sets of teeth in his endeavor to get results which his best efforts can produce, and in crown work a fee that will enable the dentist to select a dozen logan crowns for a case, and if necessary cut up half of them that he may get the desired result, a fee that will give him plenty of time to properly prepare and treat the root of the tooth to be crowned and to make a perfect adaptation of the crown to the root so that it will be an absolute continuation of the root, and in color, size, temperament, etc., it will just exactly suit the case. The public stands ready to pay a fair price for something absolutely first class. In dentistry there is no half way point. Each piece of work must be the best. A cavity must be carefully excavated, every particle of decay must be removed. The walls should be cut free from frail edges and the margins of the cavity stoned. The cavity should be cut out on mechanical lines that it may properly retain the filling. All of this takes time, and however conscientious a dentist may be, he cannot or will not spend time necessary to properly prepare and finish his work unless he is properly paid for it. I do not mean to say that there are not dentists who charge a very small fee that do not do good work, although the exception is the rule. It is these very dentists who do good work that I wish to encourage to get better paid for it and derive an income that is in keeping with a learned profession. It is not the public that establishes the precedent of low prices and inferior work. It is the dentist who thinks in order to get practice it will be necessary for him to work cheap, and in working cheap he casts about for cheap material, cheap cements, amalgams, cheap teeth, and in order that the differences between the profit and expense should equal enough for him to pay his expenses, both office and living, it is often you will find

him carrying economy to the extent of having dirty napkins, towels, dirty instruments and probably by force of habit he even economizes on washing his hands. These things all follow hand in hand. The policy of the dentist should be not how cheap he can construct a piece of work, but how expensive can he make it in point of original cost if it is going to benefit the case. This at the outside only amounts to a paltry few dollars or cents in some cases, which the patients are ever willing to pay, if they feel that you are going to spare nothing on the case to make it right. The object of this paper is to raise the standard, and in raising the standard it only means that our best efforts are to go into each piece of work and that we shall ask a fair remuneration for them. The dentist in high-class practice in San Francisco does not charge one-half the amount charged by dentists in a similar class of practice in New York. Drs. Carr, Northrup, Walker, Perry and men in similar class of practice will not put on a crown for less than \$50, but there is one thing I assure you of, they are worth it. Their work is a revelation and a work of art. Their work from an artistic standpoint is nearly perfection and in finish is almost perfect. I think every member of the California State Dental Association owes a duty to himself, to his patient and to the general public to throw aside everything about his practice that is not thoroughly high grade. Some of us may not be as busy as those who charge less, but we will have the satisfaction of knowing that what we have done has been the best that lies within our power to do and it has been made partially possible by asking a good price for it. The patients will soon recognize that you are doing something fine for them and they are willing to pay for it. Because some other dentist should charge \$10 for a crown is no reason why you should charge \$10. Produce a better crown and charge \$20. The man who puts them on for less than \$10 has not the time to give them all the attention necessary to make the operation an absolute success, and while your competitor may put in an amalgam filling for \$1.50 or \$2 in a case where gold should be used, you insist on putting in what ought to be put in. If it is beyond the means of the patient, make accommodations as regards the time that the account should be paid in, but do not lower the standard of your work. It is better to fill one tooth well than to fill ten indifferently. You will find the dentist who follows out this plan after ten or fifteen years of practice has a following that

will stick to him, while the man who put in the amalgam filling when gold ought to be used will be poor in pocket and his patients will desert him.

It is a lamentable fact that a majority of the dentists are in debt to the dental depots and only a small percentage of the dentists own their own homes. You cannot get \$25 for a crown unless you produce a crown worth \$25, and you will find the man who gets \$25 for his crown usually produces a better crown than you do. There is a dentist in San Francisco who charges \$35 for every crown he puts in, and I have found that the reason he gets more than I do is because his crown is better than mine. He is possessed of unusual skill in that direction and gets paid for it. Personally it is a matter of indifference to me what my laboratory man may charge me for making a piece of work, of course the price being within reason. In plate work I select a set of teeth that I think will suit the case and have them ground up and set up and tried in. If they are not just exactly what pleases the patient I cast them aside and grind up another set, and keep at it until we get just exactly what we want. The case when finished is then the best that lies in my power to produce and I have earned my fee.

To bring out a discussion I will give a list of fees that I think are fair and to which every dentist of skill is entitled, as follows:

Extraction	\$1 each tooth
Treatments	\$2 each
Treatments, pyorrhea, etc., and work requiring time, charge	\$10 per hour
Crowns of all kinds	\$20
Bridgework	\$20 per tooth
Gold fillings	\$5 to \$25
Amalgam	\$3 to \$10
Cement	\$2 to \$10
Gutta-percha	\$2 to \$10
Full upper and lower vulcanite, not less than	\$50
Full plates (gold)	\$125
Continuous gums	\$250

At these figures it is possible for a dentist busy all the time to make \$10,000 per year. It will cost 40 per cent of this to run his

business and the balance is only sufficient to enable the dentist to properly provide for his family, to own his own home and provide for the days when his eyes will grow dim and his fingers have lost their cunning.

It is true that it may do a dentist considerable harm to have it known that he charged more than some other dentists, as Dr. W. A. Knowles mentioned in a recent article that it may be used as a lever against him in the hands of unscrupulous dentists who will say that your charges are exorbitant, but while that may be true in a degree, where it may keep away a certain class of practice it will attract the large majority that are willing to pay a fair fee for something first class. I do not wish to insinuate that the members of the California State Dental Association do not do good work. I have gone over the list and I am glad to say that almost without exception, to the best of my knowledge, they are skillful men, but I do say that many do not get sufficient remuneration for this skill. I had a young man in my office about a year ago who told me that he charged \$10 for his crowns. I met him again about nine months after, and he told me he was getting \$15 for his crowns. He was able to spend more time on them, admitted that he was more particular with them, inasmuch as he felt that his patient was paying him a good price and was entitled to his very best efforts, and that he found surprising little difficulty in getting an additional \$5. I know of another man practicing in an interior town who does not put on any crown for less than \$15, which is a good price in the country, although his six competitors without exception put them on for \$10, and some of them for less. In spite of this fact this man does twice as much business as any of the rest of them. I have neither faith nor confidence in a man who admittedly says he charges all he can get. In other words, that the patient presenting himself or herself he considers his prey, to be pounced upon to be (vulgarly speaking) worked for all there is in it. I have the greatest possible admiration for men who have a definite charge and adhere to it. It is every man's privilege and right, which I concede, to run his business to suit himself, do his work any way he likes, be satisfied with \$100 a month if he so chooses. But I deny the moral right of a man who has the honor to have the prefix "doctor" to his name to drag his calling through the mud and slush of cheap and indifferent work and the results attending them, prohibiting him from occupy-

ing a position in the community that a professional man ought to occupy and putting his profession on the plane of a trade.

All honor to the tradesman, however, who does his work well and demands proper compensation.

The profession of dentistry cannot advance upon a trade basis, whether we are a specialty of medicine and surgery or not. The fact remains that the dentist is called upon and is constantly dealing with disease and suffering directly or indirectly due to conditions of the oral cavity and requiring a knowledge of medicine and surgery second to no specialty of medicine.

Many dentists seem to practice dentistry from the standpoint of pure mechanics, confining their work to the extracting of teeth and making vulcanite plates, apparently overlooking the possibility of the splendid results attainable in saving the teeth by intelligent treatment, so much so that no fee is asked for treatment of roots preparatory to crowning, and the treatment of pyorrhea alveolaris consists of the so-called cleaning of the teeth.

These men actually do more harm to their patients than they do good. They are a disgrace to themselves and their calling. I think it is safe to say that seven out of every ten teeth that are extracted could be saved if intelligent effort was put forth in that direction.

On the other hand, what a pleasure it is to see the mouth and teeth of a patient who has been discharged from the hands of a man who lives and practices up to near the possibilities of his profession.

He has extracted no teeth. The roots have been treated and are in a healthy condition. The gums are pink and firm and the teeth are smooth and white and regular, all evidences of age and wear have been removed and surfaces polished. The anterior teeth are filled with porcelain, no gold showing anywhere. The broken down teeth restored by crowning or filled with gold where porcelain is not practical, every evidence of pyorrhea obliterated and withal a condition of health present that is evidenced at every smile of a delighted patient, who has received only that which lies within the power of us all to deliver.

This man is a dentist and a stomatologist.

The remedy to correct a condition of a low standard would lie first with the colleges.

The time to determine a man's fitness for the profession is pri-

marily when he makes application to the colleges for admittance. The preliminary examination will to a degree settle matters from a standpoint of educational qualifications. When the man is graduated he should be encouraged to join the state and district societies, where, by association and example, he will be led to do the highest grade of work possible, to be proud of his calling and be an honor to it, and in being an honor to it he cannot and will not do but the best work possible, give his patient all that goes with his determination and the remuneration will follow by virtue of its own reward.—*Proceedings of California State Dental Association.*



DR. WILLIAM EDWARD BLAKENEY.

Dr. William Edward Blakeney, eighty years old, a dentist, died at his home, 483 West One Hundred and Forty-fifth street, Wednesday from Bright's disease after a brief illness. Dr. Blakeney was born in Peekskill and educated in the Peekskill Military Academy. He came to New York when a young man and engaged in the newspaper business, for a time publishing a small weekly newspaper of his own. He contributed to numerous periodicals and lectured considerably on general fiction.

He is said to have been the originator of the continued story. He later studied dentistry and began its practice here. He is said to have invented the rubber plate and was one of the first to use "laughing" gas in dental work. He was an intimate friend of Horace Greeley. His widow, who was Emma Chaffee, is a cousin of General Chaffee. She and one daughter survive him. He was a member of Washington Lodge, A. F. and A. M.

DR. THOMAS O. HILLS.

Dr. Thomas O. Hills of Washington, D. C., died May 4, at the age of 70 years. He began the practice of dentistry in Washington in 1857, continuing his work up to about five years ago when he had a severe attack of rheumatism.

DENTIST'S FALL FATAL.

Dr. D. S. Harmon, who fell out of a window of his office June 9 while attempting to adjust an electric wire, died June 10 as a result of his injuries. Dr. Harmon was connected with numerous secret societies, and was one of the best-known fraternity men in Virginia.

DR. E. P. HOYT.

Dr. E. P. Hoyt, once one of the best dentists in New York, and who accumulated a large fortune, is dead. He retired twenty years ago and devoted his fortune to aiding poor persons to recover their health in the Adirondacks.

Dr. Gardner Whipple, a prominent dentist of Cuba, N. Y., died May 18, with pneumonia, aged 59 years.



In reviewing the medical literature one is struck by the frequent allusions to the dental organs and the oral cavity as a means of establishing a great many constitutional conditions that come solely in the hands of a medical man, who is unable to control the constitutional condition until the mouth has been put in a healthy condition or has been freed from badly broken down teeth. The physician regards this condition as a cause of the many diseases which he is called upon to treat. This is well illustrated in an article that appeared in the Dental Era, March, 1903, by Dr. Thomas F. Rumbold of St. Louis, entitled "Nose, Throat and Ears to the Teeth," in which he gives the history and treatment of a number of cases in which he regarded the diseased teeth as a primary etiological factor. This article is worthy of the thoughtful and careful reading by every dentist who is interested in the relation of disease of the teeth to the rest of the body.

Another very interesting article appears in the February, 1903, number of the Dublin Journal of Medical Science, by Robert H. Wood, entitled "Some Remote Effects of Dental Disease." In this

article the author has given a number of cases in which he traces the primary causes to diseased dental organs, laying particular stress upon such diseases as ulceration of the stomach and enlarged emphatic glands of the neck. He is also inclined to believe that remote rheumatic condition may be the result of the various local infectious conditions of the oral cavity. Many of these cases were treated for some time before the attention of the author was called to the diseased conditions of the oral mucous membrane and the teeth. When the mouth was put in a perfectly healthy condition the treatment of these constitutional symptoms was simple and effectual.

These cases only serve to illustrate the fact that many people go on suffering from various constitutional diseases and find no relief because of the conditions of the oral cavity. In the hospitals of England it is the practice of the surgeons not to operate on any case in which the mouth of the patient is not in a healthy state. And when it is considered that the great accumulation of various forms of bacteria that inhabit a badly broken down tooth or a pyorrhea pocket, no one will doubt but that such precaution is always necessary; especially in abdominal surgery where the contents of such broken-down teeth or pyorrhea pocket is constantly being carried into the intestinal tract. It was recently my privilege to see a case which a physician had been treating for something like six weeks. The woman had a high temperature every day with a feeling of lassitude. She had been treated for malaria and various intestinal difficulties with negative results, when one day she mentioned that she had some teeth that needed attention. The case was referred to me, and on examination of the mouth I found two or three teeth that needed treatment, and an upper second bicuspid root on the left side that a dentist some time previously had attempted to extract, but failed. There was considerable pus around this root; the gum had almost completely closed over the end of the root with occasional discharge of pus. The root was removed and the other decayed teeth were put in a healthy condition. Her temperature at once became normal, her appetite increased and she soon returned to health. There was no soreness or pain in these teeth, and she has suffered no inconvenience other than what seemed to be a general debilitated condition of the system.

G. W. C.

NOTICES OF MEETINGS

NATIONAL DENTAL ASSOCIATION.

Following is a partial list of clinics promised for the coming meeting in Asheville, N. C.

An excellent list of papers is being prepared by the various sections. From the preparations that are being made, the coming meeting will be an unusually interesting and profitable one.

L. G. NOEL, President.

A. H. PECK, Recording Secretary.

CLINICS.

1. Dr. Levi C. Taylor, Hartford, Conn., "Hygienic Fillings."
2. Dr. S. Eldred Gilbert, Philadelphia, Pa., "Sharp Seamless Crown Outfit."
3. Dr. R. C. Brophy, Chicago, Ill., "Something in Porcelain Work."
4. Dr. Garrett Newkirk, Los Angeles, Cal., "Advantages of the Hollow Post Combined with the Inlay Principle for Cantilever and Bridge Abutments."
5. Dr. D. O. M. LeCron, St. Louis, Mo., "Modern Porcelain Art and Oil Colors, as Applied to Dental Prosthesis."
6. Dr. Wm. H. G. Logan, Chicago, Ill., "Pyorrhea Alveolaris."
7. Dr. Howard T. Stewart, Memphis, Tenn., "Partial Removal and Decalcification of Cementum in Treatment of Riggs' Disease."
8. Dr. F. Lee Hollister, Wilkesbarre, Pa., "A Demonstration of the Application of Dr. Edward H. Angle's Fracture Bands in Fractures of Maxillae, Superior and Inferior."
9. Dr. Geo. Evans, New York, "The Cementation of Crowns and Bridges with Gutta Percha Cement."
10. Dr. J. H. Feagan, Spartanburg, S. C., "Demonstrating the Advantages of an Improved Flask in Investing and Packing Vulcanite Dentures."
11. Dr. Robert J. Cruise, Chicago, Ill., "Administration of Nitrous Oxide with a New Nasal Inhaler."

12. Edwin C. Blaisdell, D. M. D., Portsmouth, N. H., "The Use of Non-Cohesive Gold."

13. Dr. Russell Markwell, Galveston, Texas, "Porcelain Crowns."

14. Dr. Paul W. Evans, Washington, D. C., "Specimens of Porcelain Work and a Method of Making Seamless Gold Shell Crowns."

15. Dr. F. J. Capon, Toronto, Canada, "Porcelain Crowns, Sections and Inlays."

16. Dr. Alfred Owre, Minneapolis, Minn., "Cavity Preparation in Natural Teeth."

17. Dr. Burton Lee Thorpe, St. Louis, Mo., "A Method of Protecting the Cervical Margin in Cement Fillings."

18. Dr. D. J. McMillen, Kansas City, Mo., "Combination Cohesive and Non-Cohesive Gold."

19. Dr. H. Herbert Johnson, Macon, Ga., "An Improved Modification of the Richmond Crown."

20. Dr. R. Ottolengui, New York, "Models and Appliances Representing Artificial Vela Obturators for Cleft Palate Cases."

21. Dr. Wm. Leon Ellerbeck, Salt Lake City, Utah, "Porcelain Fillings and Furnace Construction."

22. Dr. Chas. P. Pruyn, Chicago, Ill., "Root Canal Filling, Using Sandarac Varnish and Gold Wire Points."

23. Dr. Hart J. Goslee, Chicago, Ill., to be announced.

24. Dr. Rudolph Beck, Chicago, Ill., to be announced.

25. Dr. Wm. Reeves, Chicago, Ill., "Porcelain Inlays."

26. Dr. Joseph Head, Philadelphia, Pa., to be announced.

27. Dr. H. B. Tileston, Louisville, Ky., "Gold Inlay (Using Copper Amalgam Matrix)."

28. Dr. Harry P. Carlton, San Francisco, Cal., to be announced.

29. Dr. W. A. Capon, Philadelphia, Pa., "Porcelain."

30. Dr. L. E. Custer, Dayton, Ohio, "Porcelain."

31. Dr. B. Holly Smith, Baltimore, Md., "Some Novel Attachments for Removable Bridge and Metal Plate Work."

32. Dr. W. E. Grant, Louisville, Ky., "Abutments for Esthetic Crown and Bridge Work."

33. Dr. A. R. Begun, Des Moines, Iowa, "Some New Things in Gold Work."

34. Dr. Emory A. Bryant, Washington, D. C., "Replaceable Facings for Crown and Bridge Work and Repairs."
 35. Dr. Henry C. Raymond, Detroit, Mich., "Porcelain."
 36. Dr. Geo. W. Schwartz, Chicago, Ill., "Method for Constructing a Continuous Gum, Upper Set of Teeth. Table Clinic."
 37. Dr. C. Edmund Kells, New Orleans, will exhibit models showing his method of extracting impacted third molars; he will also give a demonstration in X-ray work.
 38. Dr. Robert E. Payne, New York, "Implantation."
 39. Dr. Wm. K. Slater, Knoxville, Tenn., "Porcelain Work."
 40. Dr. Thos. P. Hinman, Atlanta, Ga., "Porcelain Inlays."
 41. Dr. C. L. Alexander, Charlotte, N. C., "Gold Inlays."
 42. Dr. J. Y. Crawford, Nashville, Tenn., "Oral Clinic on the Management of Children's Teeth; also on Management of Mouths of Very Aged People."
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MEETING OF THE WISCONSIN STATE BOARD OF DENTAL EXAMINERS.

The next meeting will be held in Superior, Wisconsin, July 20, 9 a. m. All applications for examination should be in by July 15th. Candidates must be graduates from a recognized college or a regular practitioner of dentistry for four years or an apprentice to a reputable dentist for five years. Besides the regular written examination the candidate will be required to insert a contour gold filling, furnishing all instruments and materials.

J. J. WRIGHT, D. D. S., Sec'y.

NEW OFFICERS OF IOWA STATE SOCIETY.

President, Dr. W. R. Clack, Clear Lake; vice-president, Dr. V. Arthur Solvsberg, Sioux City; secretary, Dr. C. W. Bruner, Toledo; treasurer, Dr. T. A. Gormley, Mt. Vernon.

Des Moines was selected as the place of meeting next year.

NATIONAL UNIVERSITY.

The annual banquet of the medical and dental departments of the National University was held June 8th in the banquet rooms of the Oxford Hotel, Washington, D. C.

ILLINOIS STATE DENTAL SOCIETY.

At the thirty-ninth annual meeting of the Illinois State Dental Society, held in Bloomington, May 12 to 14, the following officers were elected:

President, F. H. McIntosh.....Bloomington
 Vice President, C. C. Corbett.....Edwardsville
 Secretary, Hart J. GosleeChicago
 Treasurer, C. N. JohnsonChicago
 Executive Committee, F. B. Noyes.....Chicago
 Supervisor of Clinics, C. E. Bentley.....Chicago
 Committee on Science and Literature, G. V. Black.....Chicago
 Committee on Art and Invention, J. H. Prothero.....Chicago
 Librarian, J. T. Cummins.....Metropolis City
 Members of Executive Council (3 years), A. H. Peck, Chicago;
 G. W. Dittmar, Chicago, and W. A. Johnston, Peoria.

The fortieth annual meeting will be held in Peoria the second Tuesday in May, 1904. HART J. GOSLEE, Secretary.

The Southern Wisconsin Dental Association will hold its annual meeting next year at Beloit, Wis. The officers are: President, R. J. Hart, Janesville; first vice president, S. H. Chase, Madison; second vice president; George M. Marlow, Lancaster; treasurer, W. G. Hales, Mineral Point; secretary, C. W. Collver, Clinton.

DISTRICT OF COLUMBIA.

The tenth union meeting of the District of Columbia Dental Society and Maryland State Dental Association was held May 22 and 23, at Baltimore, Md.

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MARRIED.

May 30th, at Beloit, Wis., Dr. G. E. Cleophas and Miss Clara Roadhouse. At Janesville, Wis., Dr. J. A. W. Myers of Beloit, Wis., and Miss Minnie M. Menzies of Janesville. Drs. Myers and Cleophas are partners in practice at Beloit and are both estimable gentlemen. The AMERICAN extends congratulations to all concerned.

KANSAS CITY COLLEGE ALUMNI.

The alumni of the Kansas City Dental College held a meeting May 20, at which time an organization was formed and the following officers were elected: President, Dr. J. P. Foot, Kansas City; vice president, Dr. E. M. Huier, Kansas City; second vice president, Dr. B. L. Foster, Kansas City; secretary, Dr. T. E. Purcell, Kansas City; treasurer, Dr. S. J. Renz, Leavenworth, Kans.

TENNESSEE DENTAL BOARD.

May 26th the new state board of dental examiners of Tennessee were appointed as follows: Chas. Richardson, Fayetteville; S. L. Rivers, Arkadelphia; C. C. Sims, Dardanelle; A. T. McMillen, Little Rock; W. L. Watson, Camden.

ROCHESTER DENTAL SOCIETY.

The Rochester (N. Y.) Dental Society met May 19th. It was not only the annual meeting, but the twenty-fifth anniversary meeting of the society. Officers for ensuing year were elected as follows: President, H. S. Miller; vice president, F. J. Tarrant; secretary, F. W. Proseus; treasurer, W. A. Windell; librarian, B. S. Hert.

DETROIT DENTAL SOCIETY.

The Detroit Dental Society elected the following officers May 14: President, Dr. G. B. Watkins; vice president, Dr. C. P. Wood; secretary, Dr. W. A. Griffin; treasurer, Dr. C. C. Bowles; censor, Dr. N. L. Hogarth. At the conclusion of the election a smoker was held.

The Oklahoma dentists will hold their annual meeting next year at Shawnee, I. T. The following are the officers for the ensuing year: President, F. H. Coulter, Oklahoma City; vice president, R. P. Pendleton, Norman; secretary and treasurer, Theo. P. Brinkhurst, Shawnee.

ITEMS

Dr. M. L. Spencer has moved from Hudson, Ia., to Mitchell, S. D.

Dr. D. E. Maloney, formerly of Peoria, Ill., is now located at Dixon, Ill.

Dr. A. L. Knapp, formerly of Chicago, is now located in Michigan City, Ind.

Dr. S. J. Spence, formerly of Harriman, Tenn., is now located at Chattanooga.

Dr. C. D. Hollenbeck, formerly of Dows, Ia., is now located at Waterloo, Ia.

Dr. M. J. Akan, formerly of Highland, Wis., is now located at Richland Center, Wis.

The convention of the Nebraska State Dental Society was held at Lincoln, Neb., May 21.

Dr. L. G. Holmes, formerly of Ottumwa, Iowa, has recently located in Grand Island, Neb.

The Mississippi State Dental Association convention was held May 19, 20 and 21 at Vicksburg, Miss.

The Lebanon Valley Dental Association will meet on the third Tuesday and Wednesday of next May in Reading, Pa.

Dr. E. E. Richardson, who has practiced dentistry at Leaksville, N. C., for several years, has been elected mayor of that city.

Dr. Guy Shiels, who graduated April 30 from the Northwestern University Dental school, has opened an office at Baraboo, Wis.

The annual convention of the Louisiana State Dental Society was held at the New Orleans College of Dentistry May 21 and 22.

Dr. E. A. Worden, who has been practicing dentistry in Milwaukee, Wis., for the past five years, is now located at De Pere, Wis.

During the night of May 26 every dental office in Jackson, Tenn., was visited by expert thieves, who secured about \$500 worth of gold.

Adolph W. Jensen, a student at the Chicago Dental College, who disappeared after failing to pass his examination, was found in Milwaukee May 15 by his brother, Rev. N. Jensen, of that place.

Dr. P. C. Dowe of Black River, N. Y., was expelled May 11 from the Jefferson County Dental Society at the monthly meeting. Dr. Dowe quoted prices in the advertising matter which he sent out, and this was deemed a violation of the code of ethics.

The Toledo (Ohio) Dental Society entertained the faculty of the Ann Arbor Dental college and a number of dentists from Fremont May 8. The

entertainment consisted of a luncheon in the afternoon, followed by a ball game, and the evening was taken up with a banquet and theater party.

Dr. Isaac S. Smith is now located at Logan City, Utah.

Dr. L. Knapp, formerly of Chicago, Ill., is now practicing in Bloomington, Ill.

Dr. Garrett Robertson, who has just graduated in dentistry, expects to locate in East St. Louis.

Dr. Frank W. Williams, formerly at Indianapolis (Ind.) Dental College, has located in London, Eng.

Dr. Lou Jordan, who has been with Dr. J. A. Curry in Streator, Ill., for several years, is now located at Ottawa, Ill.

Conecuh county, Alabama, will hold a special election August 3 to elect a successor to Dr. A. Jay, deceased, representative for that county.

Dr. W. H. Carcher of Champaign, Ill., who has just graduated in dentistry, will begin the practice of his profession in Streator, Ill.

Dr. Russell Shirley, a dentist, was shot and killed by David Smith at Burnet, Ala. The shooting was the culmination of a family feud.

About thirty graduated dentists from colleges outside of Michigan took the examination before the state board of dental examiners of Michigan, held during the second week of May.

Dr. F. P. Webber of Cherokee, Ia., was elected president of the state board of dental examiners for Iowa at the annual meeting of the board, which was held in the rooms of the Sioux City Commercial club May 7. Dr. C. S. Searles of Dubuque was elected secretary and treasurer. Dr. Webber succeeds Dr. T. L. James of Fairfield in the presidency. Dr. James has served the board as president for more than three years and declined a re-election.

INDIANA STATE BOARD.

The state board of dental examiners, which met June 9 for the annual examination of applicants for dentists' licenses, was confronted by a legal question which the members spent some time in debating. The recent legislature passed a law requiring all applicants for licenses, whether graduates of recognized colleges or not, to pass an examination by the board. At the meeting several graduates of the Louisville College of Dentistry presented themselves, asking for certificates without taking the examinations. The Louisville graduates made the assertion that licenses had been granted recently to graduates of the Indiana Dental college of Indianapolis, when they had taken only the examinations required for graduation, without facing the examining board. Attorney General Miller held that they could not hope to obtain licenses as the law now stands without taking the required examinations.

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